

August 11, 1986

Chemical Reporter

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CMR MARKET INDEX

CHEMICAL MARKETING	August 8, 1986	151.43
REPORTER's market index of	August 1, 1986	152.47
chemicals and related materials	July 11, 1986	152.54
(100=1974 average) based on	August 9, 1986	163.28
97 key commercial chemicals		
appears alongside with data for		
two weeks ago, last month and		
last year		

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CHEMICAL MARKETING

TALL OIL: Hercules and Reichhold multi-
tail oil and products
VAN: Pricing could firm up in wake of OPEC
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PHENOL: Price advance falters despite strong
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GUAR GUM: Supplies have dwindled, but
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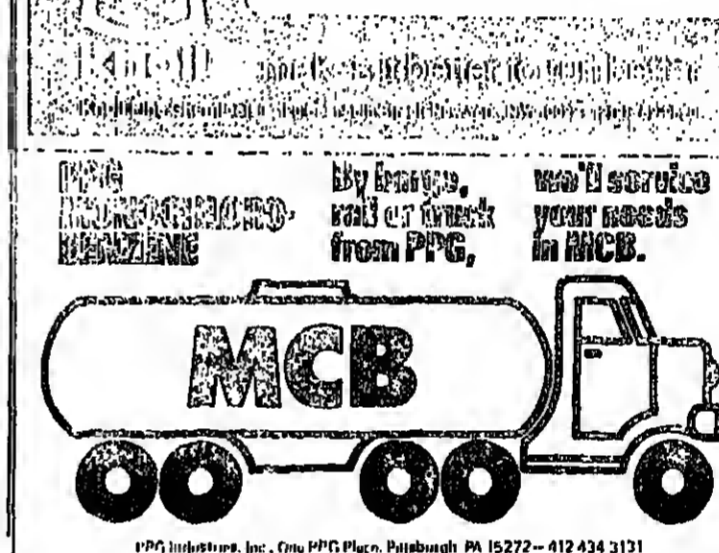
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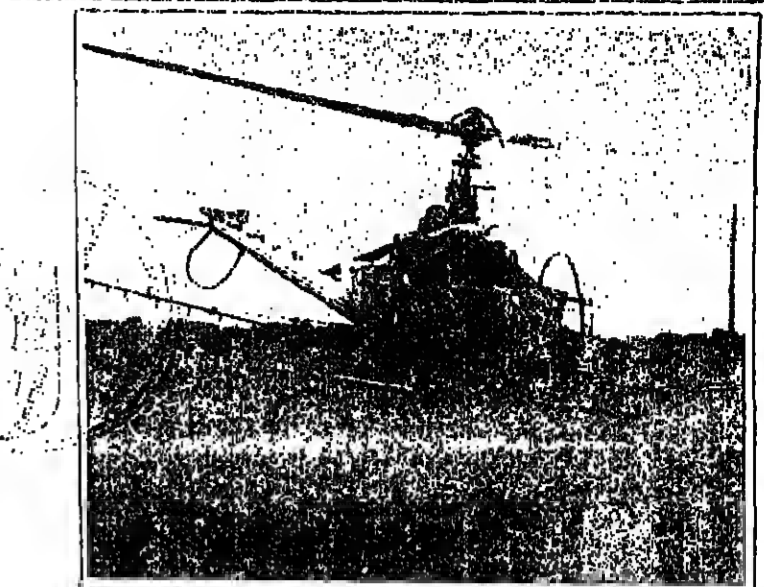
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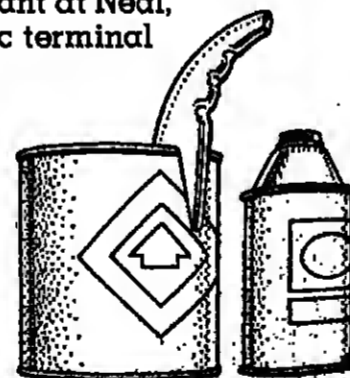
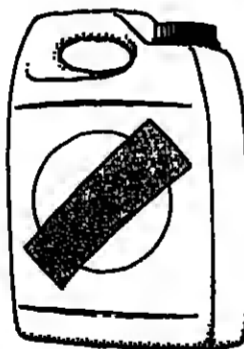
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Drug Regulation User Fees Backed

With the Gramm-Rudman-Hollings balanced budget law resulting in a prospective cut of some \$26 million from the Food & Drug Administration budget, Sen. Orrin Hatch (R-Utah), is sponsoring legislation that would shore up funding for the agency's drug approval process.

The Hatch bill would require the Secretary of Health & Human Services to establish fees for the review of applications for marketing approval of human drugs, antibiotics and biological products.

"The functions of FDA are vital to the health of our citizens," says Sen. Hatch, chairman of the Senate Labor & Human Resources Committee.

"To carry out its legislative mandate, FDA must maintain sophisticated laboratories, a corps of scientific and health professionals, and numerous field officers who inspect manufacturing and processing facilities and monitor compliance with the law at the local level. Significant cuts in the funds devoted to these duties carry significant risks for our people," says the senator.

The most predictable risk, says Sen. Hatch, is the lengthening of the "already unconscionably long" period of time which a new drug must spend in FDA review.

This would result in "needless suffering on the part of those who will benefit from new drug therapies which often avoid far more costly forms of treatment," says Sen. Hatch.

The time period for approval could take up to an additional two and a half years if funding for the approval process is cut, he warns.

Under provisions of the New Drug Application Fee Amendments of 1986, HHS would assign appropriate

fees for the application for review of a new drug, antibiotic or biological product.

The bill states that these fees would be used only for costs connected with carrying out the approval activity. HHS would also have the option to waive or reduce the fees in cases where the public interest would be served.

Exempted from the bill are Abbreviated New Drug Applications (generic drugs) and investigational new drug exemptions which do not result in a new drug application.

"Since the manufacturer is the primary economic beneficiary of an approved drug application, it is only logical that the cost of the approval process be part of the manufacturer's investment," says Sen. Hatch. "This should bridge the Gramm-Rudman-Hollings gap while making the drug approval process self-supporting."

The House recently voted to appropriate \$437 million for FDA in fiscal 1987.

Carbide Discloses Suspect In Its Bhopal Investigation

Union Carbide Corporation's disclosure last week that it has narrowed the focus of its Bhopal investigation to a "disgruntled" plant worker set off a heated exchange between representatives of the company and the Indian government, which is expected to file suit against Carbide by the end of this month in civil court in India.

"Our investigations to date demonstrate that the Bhopal tragedy was a deliberate act," Carbide said in a statement last week. "Those investigations are now focusing on a specific individual employee of the Bhopal plant who was disgruntled, and who had ample opportunity to deliberately inject the large amount of water into the (methyl isocyanate) storage tank which caused the massive gas release."

Some 2,000 people were killed and thousands more injured by the release of poisonous MIC gas from the Bhopal plant on December 2-3, 1984.

Carbide has long held the position that the leak could only have resulted from a "deliberate act," but last week marked the first time Carbide has said it has an actual suspect.

The company declined to comment on published reports that the worker had been demoted a week before the gas leak and was at the MIC unit on the night of the accident without management authorization. The worker, who is Indian, had been assigned to the MIC unit, a Carbide spokesman said. Carbide would not say how long the individual has been a suspect, or whether he was one of the eye witnesses Carbide investigators interviewed immediately after the gas leak.

Carbide's disclosure last week fits a scenario constructed by Carbide chairman Warren Anderson at a press conference called by the company in March 1985 to announce the results of its initial Bhopal investigation (CMR, 3/25/85, pg. 3).

At that time, Carbide said the introduction of a large amount of water in MIC storage tank #10 started the runaway chemical reaction that led to the fatal gas leak. While Mr. Anderson said the company had not been able to determine how water entered the tank, he suggested that a disgruntled worker might have deliberately connected a water line to the tank.

For its part, the Indian government dismissed Carbide's disgruntled worker theory last week. "They have been berping on sabotage from the beginning," said Tejmit Ahlmad, the Indian consul in New York. "It may be just a ploy," he added. "They haven't offered a shred of evidence."

Despite acknowledged safety violations at the Bhopal plant, a proven act of sabotage would be an "important factor for the court to weigh" in determining the degree of Carbide's culpability, a Carbide spokesman noted last week.

Carbide is said to be still holding out hope for a negotiated settlement, and some observers see last week's disclosure of a suspect as a sign of progress.

Continued on Page 24

Toxic Waste Dump in Missouri Seen Worse Than Love Canal

Congress was warned last week that toxic waste contamination at an idled chemical processing plant in a rural Missouri community would "wipe out that entire town."

Philip E. Badame, president of Environmental Technology Inc., told the House Government Operations environment subcommittee, "If you think Love Canal was bad, it is worse out there."

The panel, chaired by Rep. Mike Synar (D-Okla.), held a hearing to examine Environmental Protection Agency's administration of the Toxic Substances Control Act. TSCA is expected to be revised by Congress next year.

Mr. Badame said his company considered closing up the wastes at the plant, the Martha C. Rose Chemicals factory, in Holden, Mo., a town of 2,200 people, located 40 miles east of Kansas City.

He attributed the problem largely to poor regulation and lack of enforcement by EPA's regional office in Kansas City.

"That is a time bomb out there. If there is ever a fire at the Holden facility, the toxics that will be given off from the combustion of

the PCP oil will wipe out that entire town," said Mr. Badame.

The plant ceased operations last March and the company is the subject of bankruptcy proceedings by creditors. From 1982, the plant processed and disposed of materials contaminated with PCB's.

The chemicals, suspected of causing cancer and birth defects, are heat-resistant compounds used mainly as coolants in transformers, capacitors and other electrical equipment.

Lawmakers were told that an estimated 15 to 20 million pounds of PCB's were still stored at the plant, and cleaning them up could cost at least \$20 million and take up to two years.

EPA regional administrator Morris Kay conceded there was extensive contamination at the plant but said regulators had properly monitored the operation.

EPA inspectors found record-keeping problems and other violations at the plant since 1983. The agency levied fines, and the company agreed to correct the problems, he said.

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FIFRA Finally Gets Through the Senate

Sweeping legislation designed to reauthorize and update the Federal law regulating the sale and use of pesticides was unanimously approved by the Senate Agriculture Committee last week.

Lawmakers and congressional aides said the strong vote sending the measure to the full Senate adds momentum to a determined effort by Congress to pass amendments to the Federal Insecticide, Fungicide & Rodenticide Act this year.

The House Agriculture Committee approved its version of the bill June 18, and the House Rules Committee met Friday to clear the way for floor consideration next month. The Senate is also expected to vote on FIFRA in September.

While both bills would speed up the sluggish process of pesticide reviews by Environmental Protection Agency, the Senate measure would also extend patent life for agricultural chemicals and limit the ability of states to impose stricter standards for pesticide residues on food than those of the Federal government.

"This bill puts an end to years of controversy on a number of issues," said Sen. Jesse Helms (R-N.C.), chairman of the Senate Agriculture Committee.

"After many long hours of negotiation and modification, the FIFRA law will now better address itself to the problems farmers encounter in modern-day agriculture," said Sen. Helms. "The bill is a workable compromise that will benefit producers, consumers, manufacturers, environmentalists, and others affected by the use of pesticides."

If Congress is able to complete work on FIFRA before it adjourns for the year in early October, it would represent the first comprehensive rewrite of the law in 14 years.

Progress has been hindered by a persistent dispute between the chemical industry and environmentalists, a logjam broken this year when the two sides finally worked out compromises on the primary issues in the bill.

The Senate committee adopted most of the major provisions of the House bill, but several major amendments were added.

Most significantly, the panel approved an amendment by Sen. Edward Zorinsky (D-Neb.) to extend the patent life of pesticide

products, a top legislative priority of the National Agricultural Chemicals Association.

The amendment represents a negotiated compromise between an organization of 11 major chemical companies that conduct basic research and development work on pesticides, and the Pesticide Producers Association, a group representing small to medium size pesticide companies that seek to market generic products.

Under the agreement, the patents of a pesticide subject to regulatory review procedures at EPA may be extended for a term equal to the time lost during the review up to a maximum of five years.

In addition, it would not be considered a patent infringement to conduct tests on a registered pesticide receiving a patent term extension.

Continued on Page 21



PESTICIDE LIFTOFF: Legislation passed by Senate adds momentum to determined move in Congress. Here a helicopter delivers herbicides.

Hazardous Waste Regulation Tightened Up by US Agency

Under new guidelines issued by Environmental Protection Agency, US exporters of hazardous waste must have prior written consent from foreign nations scheduled to receive the waste, or shipment cannot take place. The new requirement, effective November 8, is contained in final regulations issued by the agency last week as called for in the Resource Conservation & Recovery Act, the Federal hazardous waste management law. Under the regulations, exporters must notify EPA in advance of intended shipment. EPA and the State Department will coordinate to provide notification to the receiving country.

Notification will also be provided to any country through which the waste will pass in transit to the receiving country. EPA will then notify the exporter of the country's response.

"This regulation will for the first time ensure that the receiving country has consented to receive the hazardous waste," says EPA Administrator Lee M. Thomas. He says the rule will prevent international transportation of waste to countries that do not want the waste, while giving countries willing to accept the materials an opportunity to manage it safely.

The US Customs Service official at the point of departure will collect a copy of the required manifest which accompanies the shipment. This will allow EPA to work with Customs to monitor and spot-check exports.

In addition, the agency says exporters must file exception reports and submit an annual report summarizing hazardous waste exports.

EPA says exporters should notify the agency at least 80 days before shipment.

Degussa Acquires Precious Metal Firm

Degussa Corporation last week said it completed the purchase of Metz Metallurgical Corporation in South Plainfield, N.J. Metz will be a wholly owned subsidiary of Degussa but with its own Board of Directors and officers.

Metz is a 55-year old company well established in the manufacture of precious metal products. Metz produces precious metal powders, flakes, salts and solutions for the electronic, photographic, chemical, pharmaceutical and automotive industries and metallurgical products such as brazing and electrical contact alloys. Metz also refines precious metals.

The Metz plant and support facilities are located on a 10-acre parcel in South Plainfield, N.J., and employs 210 people.



Paul J. Johnston, who has been named vice-president and general manager of the Coatings Resins Department of Union Carbide. He was previously general manager in the company's Coatings Materials Division.

Plastics in Ocean: Pollution on the Rise

Up to 150,000 tons a year of plastics are dumped into the world's oceans by the fishing industry alone, Society of Plastics Industry says. Merchant vessels, boats, beachgoers and refuse from sewage treatment facilities also contribute thousands of tons per year.

SPI president C.E. O'Connell told the House Merchant Marine Subcommittee on Coast Guard & Navigation that the plastics industry wants to help solve the problem of plastics pollution in the seas. "We are committed to reducing the likelihood of plastics pellets finding their way into the marine environment, increasing the level of plastics recycling and educating decision-makers and the public about the options for properly disposing of all municipal waste," he declared.

He also said the US should ratify a convention conceived in the early 1970's that provides for the prevention of pollution from ships. This so-called "Marpol" convention would prohibit the dumping of garbage, including plastics, from ships.

PPG Is Expanding Taiwan Silica Unit

PPG Industries, Inc. will increase the capacity of its precipitated silica operation in Taiwan by more than 50 percent, bringing the plant's capacity up to 20,000 metric tons per year.

The expansion, due on stream October 1, will allow the company to meet growing demand for its line of silicas in Japan, Taiwan and Southeast Asian markets, the company says.

PPG recently launched three other significant chemicals projects in the Far East — a licensing agreement to provide technology and equipment for China's first commercial silica plant, a joint venture chlorine-caustic soda manufacturing project with China Petrochemical Development Corporation in Taiwan, and an agreement with Tokyo-based Nippon Oil & Fats Co. to pursue specialty chemical projects in Japan.

The silica plant is operated by PPG Industries Taiwan Ltd., a joint venture formed in 1983 by PPG and local Taiwan investors. PPG has majority interest in the operation.

Pesticides May Hurt The Immune System

According to a Canadian study, exposure to certain pesticides may weaken the immune system, resulting in increased susceptibility to infection.

A research group from the University of Quebec, Montreal presented findings at the Sixth International Congress of Pesticide Chemistry recently which indicate that eight commonly-used pesticides, among them dieldrin, carbaryl and aminocarb may damage the mammalian immune system.

In laboratory tests, the compounds were found to cause a decline of from 50 to 80 percent in the immune system responses of laboratory animals given doses 10 to 20 times higher than normal environmental levels of the pesticides.

Dr. Michel Fournier, professor in the university's biological sciences department, says that the compounds seem to act by disrupting microphages, the white blood cells that alert the rest of the immune system to bacterial or viral invasion.



Donald V. Borst, who has been appointed to the position of vice-president of SCM Industries, a division of Hansa Industries, the US arm of Hanson Trust PLC.

Nematocide Wins Approval For Testing

Unocal Chemicals Division has gained Federal permission for limited marketing of a pesticide to control nematodes, the tiny parasites that infest roots of various food crops grown throughout the world. In the US alone, crop loss from nematodes is estimated at \$4 billion per year.

According to its developers, the most attractive feature of the nematocide is its ecological compatibility. Unlike other effective nematocides in current use, the new product, code named GY-81, which is shielded by several patents, was designed to pose no risk of contamination to ground water or the plants it protects.

"It was designed for use on growing plants and to be environmentally acceptable," says Dr. Don C. Young, who is primarily responsible for the original chemistry of the product at Unocal's Fred L. Hartley Research Center in Brea, Calif.

Magnesium Projects Expected in Canada

Construction of two new magnesium plants with a combined annual capacity of 90,000 metric tons is expected to proceed in Canada, with the result that several US plants could be forced to close.

Fred Fletcher, director of the Chas Econometric Metals & Materials Group in Bala Cynwyd, Pa., says provincial officials are offering attractive terms for the projects in an effort to attract new industry.

Plans have been proposed by Magnesium Company of Canada Ltd., majority owned by Aluminum Company of America, and by Norak Hydro As.

It is expected that the new Canadian plants would depress magnesium pricing in North America and possibly force the closing of several higher-cost plants.

Groundwater Guides Issued by US Agency

Environmental Protection Agency is issuing guidance for determining groundwater vulnerability at hazardous waste facilities regulated under the Resource Conservation & Recovery Act, the Federal hazardous waste management law.

The guidance provides RCRA permit writers the technical criteria to evaluate hydrogeologic data submitted in permit applications for hazardous waste land-based treatment, storage and disposal facilities.

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Toner Case Accepted

International Trade Commission last week voted 6 to 0 to initiate an investigation to determine whether toner imports by Canon Japan and Canon US are in violation of US antitrust laws.

A complaint filed July 16 by Aunyx Corporation alleges that Canon has unlawfully monopolized the US market for monocomponent toners. (See CMR, 7/21/86, p. 3)

Under section 337 of the Tariff Act of 1930, ITC could initiate an embargo against the offending Canon toners within a year.

Only Canon and Aunyx manufacture a toner usable in Canon's "NP" copier line, but Canon has more than 99 percent of that market, which Aunyx estimates at \$150 million per year.

Meanwhile, Aunyx has filed a \$300 mil-

lion antitrust action against Canon in the US District Court in Boston.

Toner, which is made from resins and pigments, is the dry ink for copiers.

"The unanimous vote of the ITC should send a signal to the Japanese that the US government will not wait until another US industry is destroyed," said Aunyx president Robert Langone.

Asserting that Canon has "competed unfairly to monopolize the US monocomponent toner market," Mr. Langone said, "we intend to use section 337 to obtain an exclusion order and the courts to obtain appropriate money damages."

Bart S. Fisher, an Aunyx attorney, said Canon personnel have coerced Canon dealers into not using the Aunyx product by not delivering the new generation of Canon copier machines to dealers who have purchased Aunyx toners.

ICI Buys Glidden Lines For \$560 Million in Cash

Imperial Chemical Industries, PLC reinforced its position as a leading world paint company last week by agreeing to acquire from Hanson Industries, the US arm of Hanson Trust, the North American paint, coatings, resins and "Macco" adhesives businesses of Glidden for \$580 million in cash.

The businesses were bought by Hanson earlier this year as a division of SCM Corporation. Hanson Trust says that on completion of the agreement with ICI it will have raised nearly \$810 million through the sale of SCM assets for which it paid approximately \$930 million earlier.

SCM continues as a producer of chemicals, including titanium dioxide, and paper and consumer products. The company operates two US TIO₂ plants, a 109,000-short-ton facility at Baltimore, Md. and an 86,000-ton plant at Ashtabula, Ohio. SCM's total world capacity for the white pigment is rated at about 323,000 tons, behind leader E.I. du Pont de Nemours & Co. and British Tioxide, PLC.

ICI says the acquisition makes it the third largest producer in the US coatings and resins industry worth \$9 billion a year. In the year ended June 1986, Glidden had sales of more than \$650 million and pre-tax profits of more than \$80 million, with net assets at book value of approximately \$220 million.

In making the announcement last week,

ICI chairman-elect Denis Henderson said the acquisition would allow ICI to "accelerate dramatically" its expansion in the \$25 billion world paint market.

He says paints, specialty coatings and resins are adding to ICI's resistance to cyclical downturns in chemicals and "they have a strong track record of profitable growth."

Glidden, with headquarters in Cleveland, Ohio, operates 12 manufacturing units and has 4,500 employees in North America. The company distributes paints and related products to paint contractors through 350 company-owned outlets and its retail consumer paints through both independent dealers and retail chains.

In the industrial coatings market, the company is a major factor in can, coil, appliance and powder coatings markets.

Through existing operations, ICI has annual paint sales in group companies and associates of more than \$1.26 billion and manufacturing plants in 26 countries.

The company says its "Dulux" paint brand has 40 percent of the retail market in the UK and over half the color paint sales in value and has increased its retail market share volume from 26 percent to 34 percent in 10 years.

A technical innovation by the company in the retail trade has been development of an almost solid form of emulsion paint and ICI

Continued on Page 21

L'Air Liquide Commences Cash Offer for Big Three

L'Air Liquide SA, the French industrial gas firm, commenced a \$1.05 billion tender offer for all 36.3 million outstanding shares of Big Three Industries, following an acquisition agreement between the two companies last Tuesday (August 12).

The \$29-per-share offer is being carried out by AAL Acquisition Corporation, a unit of L'Air Liquide.

William Boren, vice-chairman of Houston-based Big Three, said "there will be no consolidation" of Big Three's industrial gas operations and those of Liquid Air Corporation, L'Air Liquide's US subsidiary.

According to Mr. Boren, the French firm has expressed its intention to operate Big Three as a separate unit under the same name and personnel. Mr. Boren says Big Three and Liquid Air will continue to compete against each other in the California, Texas, Louisiana and Florida markets.

According to Mr. Boren, Big Three is the fifth-largest industrial gas concern in the US, behind fourth-ranked Liquid Air.

Although Big Three was not on the selling block, there had been speculation over the past few years that the Smith family, which owns about 8 percent of Big Three's stock, was interested in selling.

Harry K. Smith, chairman of Big Three,

and his brother, Albert K. Smith, co-chairman, decided it was time to sell their stock, and L'Air Liquide "came along and made what was considered a very good offer," Mr. Boren explains. The Smith brothers will both retire their posts at Big Three.

Mr. Boren says other firms had expressed interest in acquiring Big Three, but "no firm offer was made by anybody else" besides L'Air Liquide. It was reported that Union Carbide Corporation had also been a bidder, but Mr. Boren says Carbide never expressed interest in acquiring Big Three.

Big Three's oil field services business has been sagging, along with the market in general, but the company's industrial gas operations are considered strong, especially on the Gulf Coast, where the firm's gas pipelines give it an advantage over competitors.

Big Three, which reported a 15 percent drop in profits in the second quarter, said results in the first half improved slightly to \$24.4 million, or 87 cents a share, as compared with \$23.9 million, or 82 cents a share in the comparable period last year.

L'Air Liquide said last week that its offer is subject to a minimum of 24.8 million shares of Big Three being tendered and not withdrawn prior to the September 11 expiration date. Big Three's board approved the offer and is recommending that Big Three stockholders accept it.

Potash Makers See No Rebound in '87

Potash producers, coming off a fertilizer year in which both North American and export shipments of product fell sharply, see little hope for a turnaround in domestic sales in the 1986-1987 fertilizer year, although exports may pick up enough to offset any further decreases in domestic demand.

Potash production by Canadian and US producers in the fertilizer year ending this past June 30 fell 12.4 percent to 8.4 million short tons, K₂O basis. North American disappearance fell 6.5 percent in the year to 8.6 million tons, K₂O basis, while exports slipped 9.5 percent in 1985-1986 to 2.8 million tons, according to figures provided by Potash & Phosphate Institute.

One bright spot has been a 12 percent decline in inventories during the year, but one producer tempers that statistic by pointing out that stocks did not begin to fall until April at the tail end of the planting season.

Producers have taken extensive downtime this Summer in an attempt to further whittle down inventories. For example, the two largest Canadian producers, Potash Corporation of Saskatchewan and International Minerals & Chemical Corporation, have taken long turnarounds this Summer. PCS closed all its mines from mid-June through the end of July before resuming operations on August 1. An ongoing strike at PCS's Langan, Sask. mine, however, has forced PCS to operate there at sharply reduced levels. At

IMC, a company official says large inventories have prompted the company to significantly lengthen its normal Summer turnaround at Esterhazy, Sask. He did not disclose when the mine would reopen.

Even while stocks fall, domestic demand

Continued on Page 17



David A. Naedham, who has been named vice-president for marketing services and director of marketing for resins by Herculite Inc. He will assume responsibility for sales and marketing of organic resins as well as retaining a number of other marketing functions that he already performs.

Ocean Incineration Backed By Congressional Office

Ocean incineration — burning hazardous wastes in incinerators mounted on ocean-going vessels — could be an attractive, though not essential, interim option for managing certain liquid wastes, according to a report released Friday by the Congressional Office of Technology Assessment.

Several waste treatment methods, such as ocean incineration, will be needed to bridge the gap between hazardous waste disposal practices of the past which are being abandoned, such as landfilling, and preferred practices of the future, such as waste reduction, whose capacity is only now developing, according to OTA.

The report, prepared at the request of the Senate Commerce Committee and several House committees, notes that time will be required to implement these preferred practices and they will not be applicable to all wastes.

Last May, the Federal government re-

jected Chemical Waste Management Inc.'s request to burn toxic waste aboard an incinerator ship off the Atlantic Coast.

Lawrence Jensen, Environmental Protection Agency's assistant administrator for water, said the agency backed off its ocean-atmosphere support for the experimental technology partly because of public concerns raised by its tentative approval last December of a test mission 155 miles off the coast of Ocean City, Md.

Mr. Jensen said EPA would not license any research burns for at least one year while the agency develops comprehensive ocean incineration regulations.

OTA says ocean incineration is likely to have only a limited effect on incentives to shift preferred management practices, in part because these practices are expected to be applied to nonincinerable wastes for the near future.

It says to ensure that ocean incineration is substantiated by better technologies as they develop.

Continued on Page 25

Polymer Institute Is Set To Market R&D to Industry

The University of Detroit will operate its first corporate subsidiary, Polymer Technologies, Inc. (PTI), to do research in polymers, some of it under contract to industry.

Dr. Nicholas J. DeGrazia will act as president and chief executive officer of PTI, while continuing to serve in his present capacity as the university's vice-president for finance and its treasurer. Creation of the company will be completed by fall with PTI becoming a wholly owned subsidiary of the university.

PTI will build from the Polymer Institute, a research center founded in 1968 within the University's College of Engineering and Science. The founder and director of the Polymer Institute, Dr. Kurt C. Frisch, will serve as vice-president and director of research in the new firm. Dr. Frisch's specialty is polybutadienes.

Since its founding in 1966, the Polymer Institute has served more than 100 contractual clients including Dow Chemical Corpo-

ration, Quaker Oats Company, Budd Company, Ford Motor Company, General Motors Corporation, and Mitsubishi Chemical Industries. Dutch State Mines (DSM), the U.S. Army and Navy, IBM Corp., Control Data Corp., and Johnson & Johnson Inc. are among its 20 current clients.

Marketing the company to new clients and expanding its research capabilities will be among Dr. DeGrazia's responsibilities as president of PTI.

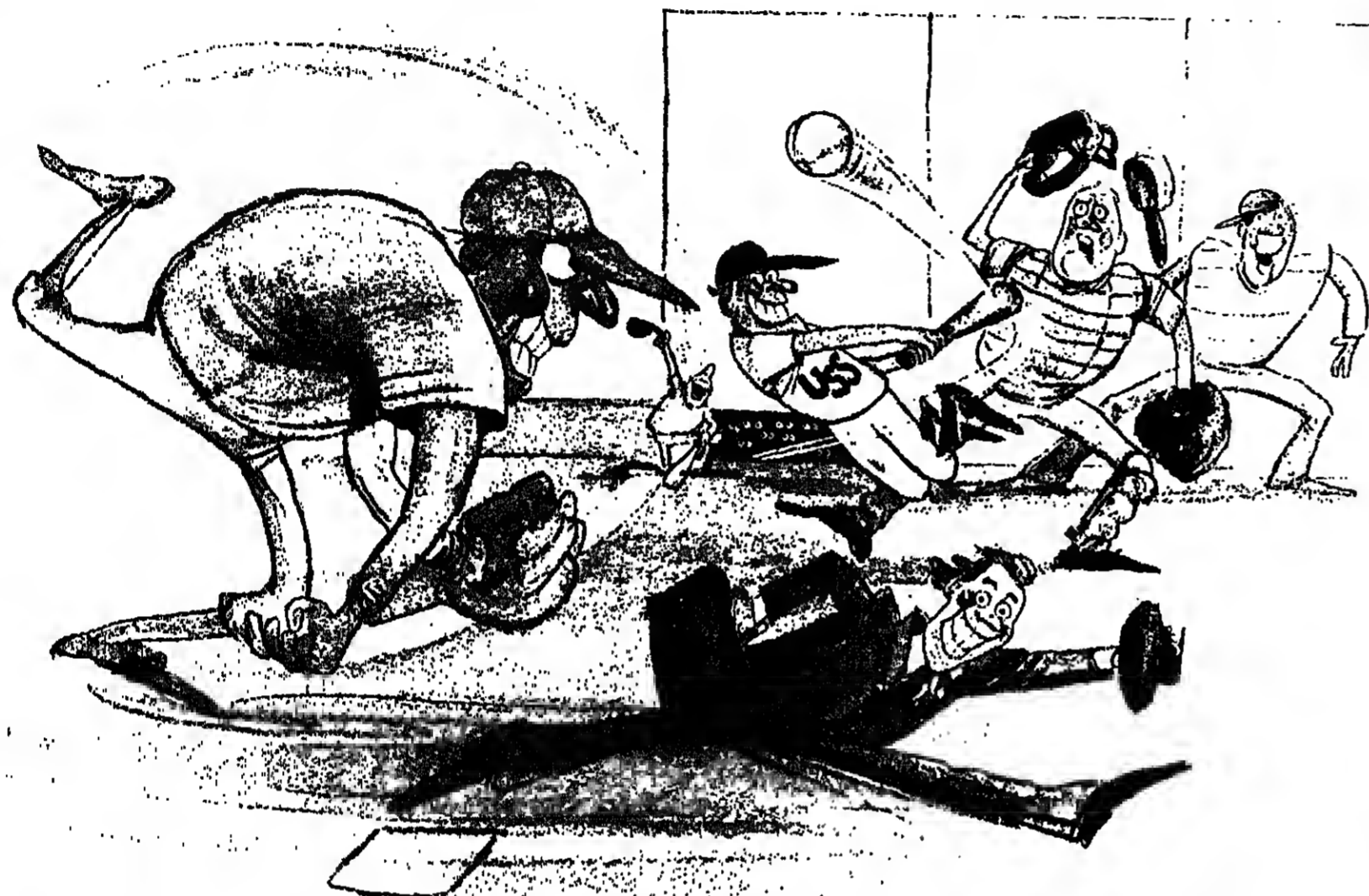
"What is unique about our marketing position," says Dr. DeGrazia, "is we have been in somewhat of a reactive mode for the last five years. Kurt Frisch, who is extremely well known in the scientific and industrial communities, has brought a lot of customers through the door and many of these companies have requested further research activities."

One area that PTI will continue to pursue is humanitarian research for the health field.

It is expected that in the near future PTI will assist the government of India in the

Continued on Page 18

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News Capsules

Denka Starts Expansion

Denka Chemical Corporation has started work on a 20-million-pound expansion of its Houston, Tex., maleic anhydride plant. The project is scheduled for completion in the first quarter of next year and will lift Denka's maleic anhydride capacity to 85 million pounds annually. The increased capacity is necessary to meet projected market growth, anticipated to be 4 to 6 percent per year, says Denka.

Du Pont Cuts Costs

E.I. du Pont de Nemours & Co. says it has cut production costs by 35 percent at one of its major plants through the use of statistical techniques by shop floor workers as a substitute for the traditional inspection method of quality control. Du Pont says effective use of statistical techniques can increase product yield to nearly 100 percent.

Carbide Additive

Union Carbide Corporation says it has developed "Ucaral" FR additives for use in formulating functional plastic building materials with improved fire safety properties. Initial commercialization of products formulated with the additives will be in electrical wire and cable insulation and jacketing, and in electrical conduit for use in shipboard, military, power plant, subway and high-rise building applications.

Chevron Opposes Measure

Chevron Corporation has come out against Proposition 65, which will be on the ballot in California this November. The company says the measure would make it "extremely difficult" for farms or businesses to operate with the routine use of pesticides, gasoline, diesel fuel and other chemicals considered safe for household use. Chevron says it is urging California voters to read the proposition carefully before voting.

O-C Specialties Unit Sold

Owens-Corning Fiberglas Corporation has reached agreement for the sale of its CHR Industries subsidiary to Bundy Corporation. CHR, a specialty pressure-sensitive tapes, silicone rubber sheet and "Teflon" coated fabrics firm based in New Haven, Conn., "will add approximately \$25 million in sales to Bundy's \$70 million performance plastics group," says Bundy president William E. Eckhardt.

Pantasote Deal Complete

Pantasote, Inc. has completed the previously announced sale of its Hickory, N.C. polyvinyl chloride film facility to Hickory Vinyl Corporation. The Hickory facility, which had sales of approximately \$7 million last year, will continue to supply a portion of Pantasote's film requirements for the company's Butler, N.J. printing/laminating division. Pantasote had 1985 sales of about \$133 million.

Vinyls Venture Set

Imperial Chemical Industries PLC and EnlChem are completing plans for their vinyls joint venture, to be known as European Vinyls Corporation, to begin trading on October 1, 1986. EVC International SA/NV, which will coordinate the venture's business worldwide, will be established in Brussels in order to prepare for start-up of the operating companies.

Nitrogen Plant Starts

Air Products & Chemicals Inc. has begun supplying nitrogen to Rohr Industries' Riverside, Calif. plant from a new vacuum swing adsorption (VSA) facility. The nitrogen is used as an inert pressurizing atmosphere for curing composite aircraft and spacecraft parts in autoclaves.



James J. Bigham

Celanese Corp. Sets Up Unit For Specialties

Celanese Corporation last week said it has formed a new unit, Celanese Advanced Technology Company, and appointed James J. Bigham as its president.

"This move," says CEO John D. Macomber, "is an important step in our growth and diversification strategy." He adds that it will "further strengthen the tie between our research and development activities and our growth businesses, which will play an increasingly important role in our future."

With headquarters in Chatham, N.J., the technology group employs 650 persons in administrative, research and pilot production facilities at Charlotte, N.C., Corpus Christi, Tex., and Summit, N.J., with a production unit at Rock Hill, S.C.

The focus will primarily be on advanced materials such as "Vecira" thermoplastic and a polybenzimidazole specialty fiber of which the claimed properties are high temperature and chemical resistance.

Mr. Bigham is a vice-president of Celanese Corporation and formerly president of Celanese International Company.

Department Plans to Expand Fuel Ethanol

Department of Agriculture last week expanded its temporary program to encourage the use of grain in the production of fuel ethanol by including dry-milling and wet-milling grain products and grain-derived syrups as eligible feedstocks.

The goal of the program, which ends September 30, is to maintain the demand for grain by bridging the gap between spring grain prices and lower prices expected this fall as a result of reduced price support levels mandated by the new farm program.

The decision followed a comment period and an informal hearing held to determine whether the temporary program to encourage the use of grain for fuel ethanol should include non-grain-based ethanol producers, who use a variety of feedstocks.

Daniel G. Amstutz, under secretary of agriculture, says it was determined that while a reduction of grain-based ethanol feedstocks costs through September would preserve a market for grain, a similar situation does not exist with respect to non-grain ethanol feedstocks.

Pickens Recommends Hemispheric Market

The US should seek energy security by encouraging the formation of a Western Hemisphere Energy Alliance or an energy common market, two panelists proposed in a symposium on energy mergers and energy policy at the national meeting of the American Bar Association in New York last week.

T. Boone Pickens, chairman of Mesa Petroleum Corporation, and the leading advocates of oil industry restructuring, whether by forced merger or management policy, suggested that an Energy Alliance linking the US with Canada, Venezuela, Colombia, Ecuador and other oil and gas-producing nations would meet the national security objective once believed attainable through US self-sufficiency.

Theodor Garrish, assistant US secretary of energy, noted that the producing and consuming nations in the Western Hemisphere are already verging on a common market for energy. By the end of the decade, Mr. Garrish noted, there will be a free flow of oil and gas between Canada and the US, as the last of Canadian controls will have been phased out.

Mr. Garrish's remarks, like those of Mr. Pickens and Charles Trabandt, commissioner for the Federal Energy Regulatory Commission, laid great emphasis on the detrimental effects of regulation and the

need to permit the maximum play of free market forces in the production and allocation of energy resources.

The panelists also agreed that the benefits flowing from mega-mergers and restructuring in the oil and gas industry far exceeded the claimed ill effects. The fact that the oil production of most major US oil companies significantly exceeds their discovery of new reserves creates a need for restructuring and also supports the idea of a Western Hemisphere energy common market, the speakers indicated.

The increased Federal controls over mergers being sought by some of the larger oil companies that have become targets of Mesa and other small companies were rejected by the panelists. Mr. Garrish noted that it took five years to dismantle the crippling price controls and allocation of oil implemented in the mid-1970's.

"It is the politically powerful losers who do the lobbying, and it is hard to resist their demands," he said.

Mr. Pickens had similarly bared words for Federal regulation, but there was implicit disagreement about Mr. Pickens' plan to form a massive organization of stockholders to press for shareholder rights. A panelist said that a lobbying organization of 47 million stockholders would not necessarily have

Continued on Page 29

Methane From Land Fill

The "Gemini-5" system, a new, proprietary gas separation technology developed by Air Products & Chemicals, Inc., has been incorporated in a recently completed landfill gas recovery facility in Greensboro, N.C.

This system, which includes equipment supply and technical services, is a pressure-swing adsorption (PSA) process that separates carbon dioxide and methane, producing a gaseous stream of 99 percent pure methane at high recovery levels. The system operates at considerably lower pressures than competing technologies, and has been automated for semi-attended operation.

In the first commercial application of the system, it will purify gas recovered by GSF Energy Inc.'s new facility at the City of Greensboro's White Street landfill.

The plant has a capacity to process up to 3 million standard cubic feet per day of the raw gas generated by the natural decay of landfill material. GSF Energy Inc., an Air Products subsidiary, will operate the recovery facility and sell the high-purity methane as pipeline gas to Piedmont Natural Gas Company under a multi-year contract.

In the gas processing facility at Greensboro, raw feed gas passes through a proprietary pretreatment system to remove trace impurities. The pretreated gas then passes through a bed of adsorbent to remove carbon dioxide, producing a high-purity methane product stream. The carbon dioxide is removed from the adsorbent by lowering the pressure and can also be collected at high recovery and purity as a byproduct.

Household Cleanser Sales To Hit \$9.9 Billion This Year

US sales of household cleaning products will show moderate but steady growth through 1986 and 1987 with most activity occurring in the large soaps and detergent sector, according to a new study by Charles H. Kline, Fairfield, N.J., market analyst.

The industry will reach \$9.9 billion in 1986, up by 6.8 percent from \$9.3 billion in 1985, Kline asserts.

This growth will be influenced by a number of factors as marketers attempt to gain share in this highly competitive industry. Kline says these include the following: industry consolidation through acquisitions and divestitures; increasing efforts to extend successful brands; heightened consumer demand for convenience; and changing demographics and buying patterns among consumers of household cleaning products.

Several acquisitions took effect in 1985 which dramatically increased sales of five companies and will alter the competitive structure of several product categories in 1986 and beyond.

Greyhound increased its sales of household cleaning products by over 1000 percent with the acquisition of Purex's Consumer Products Division which it has merged with Armon-Dial to form the Dial Corporation.

The acquisition product categories as well as a large, growing private-label business. Similarly, the acquisition of Texila in-

creased Dow Chemical's sales of household cleansing products by 871 percent, strengthened its position in the bathroom cleaner category and expanded its participation in the growing all-purpose and glass cleaner segments.

Other significant acquisitions include Reckitt & Colman's purchase of Airwick, Sare Lee's purchase of selected assets of Nicholas Kiwi and Block Drug's acquisition of the X-14 brand of mildew remover from White Laboratories.

Marketers are more likely to extend their strongest brands than to introduce new ones, a strategy that stimulates sales and rapid consumer acceptance while maximizing the effectiveness of promotional expenditures, according to the study. Economics Laboratories has built its "Scrub Free" line of cleansers using this strategy.

This tactic has also worked well for Church & Dwight ("Arm & Hammer"), Kline says. However, it represents a new approach for the largest marketer in this industry, Procter & Gamble. The company, once unwilling to exploit such popular brands as "Tide," introduced a flurry of extensions in 1985 and 1986 and appears likely to continue. For example, at least three distinct products bear the "Tide" name in 1986 and several new liquid detergents bearing the "Cheer" and "Bold" names have been announced.

Increasing demand for convenient house-

Continued on Page 17

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OILS, FATS & WAXES

Palm Oil Market Depreciates; Production Increases Again

Palm oil prices have fallen considerably over the past couple of weeks due to oversupply, weak export movement, and low prices on competing oils. A drop-off in orders from India in recent weeks has been especially harmful to the world palm oil market, sources say.

The oversupply situation facing the palm oil industry throughout the year is continuing. Malaysian Government palm oil production estimates put the July figure at 392,000 tons; August estimates stand at 470,000 tons, and September's production is forecast at 500,000 to 575,000 tons. These estimates trace the continuing trend of monthly Malaysian production increases of about 20 percent.

India's recent absence from world palm oil trade has been sorely felt in the market, sources say. India, usually Malaysia's largest customer, has bought less oil in recent weeks than had been expected. It is thought that with world stocks as high as they are, the Indians feel safe in waiting for the price to drop further before completing their buying for the year. It is hoped that when they do come back into the market, they will help bring prices back up.

INDONESIA SELLING LESS
On the other side of the coin, Indonesia has been selling considerably less palm oil than had been anticipated. Balikpapan estimates by one industry analyst see Indonesia as having about 500,000 more tons to sell on the world market through December. If and when these quantities go into the market, palm oil prices can be expected to fall further, sources say.

Low pricing on competing oils has also helped to dampen the palm oil market. In Europe, rapeseed and fish oils have been providing stiff competition for palm oil, while the decline in coconut oil prices on both the spot and forward markets has been a problem for palm oil worldwide.

US use and trade in palm oil has been continued steady, industry sources say. US imports from October through June of this year are 217,823 metric tons (MT), compared to the previous year's figure of 127,152 MT. US stocks at the beginning of July stood at 35,756 tons, down from the June 1 figure of 40,393 tons.

The outlook for the future, though mixed, seems to indicate a continuation of depressed prices. Although India's buying is expected to increase soon, that must be weighed against the possibility of large amounts of Indonesian palm oil entering the market.

Even if this were not to materialize, it is considered certain that, barring extreme weather conditions, Malaysia's production will continue to increase over the next year.

or more. Most industry observers see no factors that could contribute to a significant firming trend in the near future for the vegetable oils market in general, and for palm oil in particular.

Malaysia announced early last week that it intended to lower the export duty on crude palm oil for the month of August. The duty on refined oil will not be lowered at this time. It is unclear if the reduced tax will last beyond August.

PRICES TRENDLINES

WEEK ENDING AUGUST 15, 1986

CHANGES/UP

Cottonseed, 41% bulk, Memphis, \$18 per ton
Soybean, 44% bulk, Decatur \$7 per ton

CHANGES/DOWN

Coconut oil, NY, 44c. per lb.
Corn oil, Midwest, 1/2c. per lb.
Cottonseed oil, Valley, 1c. per lb.
Lard, loose, bulk tanks, Chicago divd., 1/2c. per lb.
Palm Oil, 1/4c. per lb.
Peanut, 80% bulk, SE, \$8 per ton
Soybean oil, Decatur, 1c. per lb.

OILS, FATS INDEX

The Oils, Fats & Waxes Index reflects the prices of 11 representative materials in this sector and the quantity of each produced in 1985.

Aug. 16, 1986	79.60
Aug. 8, 1986	79.16
July 16, 1986	65.55
Aug. 15, 1985	65.82

Chemical Prices Start on Page 32

August. The Malaysian government is entering a joint venture with a company or companies for the refining of crude palm oil, and this is considered part of their reason for encouraging the release onto the market of large amounts of crude palm, a source says.

VEGETABLE OILS

COCONUT OIL — Pricing on coconut oil is sagging due to a lack of demand and abundant stocks. The price is thought to be near the lowest levels that it will reach.

Many traders were surprised last week by the low prices reached in the forward market. Although the spot market had been expected to fall, unusually low pricing was seen on positions as far ahead as 6 to 8 months, industry sources say.

Now, traders are expecting the forward market to fall to spot levels, and they believe that the spot prices will not fall much further.

Malaysia's recent reduction in crude palm oil export levies is being closely watched by people in the coconut oil industry, as reports that Malaysia is considering reducing the 10 percent export tax on palm kernel oil, a major competitor of coconut oil. Moves of this kind can be expected to depress coconut oil prices, sources say.

COTTONSEED OIL — The market for this oil has been very slow as buyers are waiting for the crop currently being harvested to bring prices down further than they have been.

Buying has been very weak lately, with the spot market seeing almost no activity, and the forward buying taking place at very low prices. Most of the trading being done recently is for November through March positions, selling for about 14c. per pound, industry sources say.

Helping to depress the market is the early start-up of oil mills in the Mississippi delta. The Texas crop, currently being harvested in coastal areas, is said to be lower in yield and quality than last year's crop. This harvest, which is expected to go on through November, is expected to fuel the early start-up of several other mills. No significant upward demand is expected until near the end of the year, when it is hoped that prices and

Continued on Page 16

Chemical Finance

Asarco Sells Additional 450,000 Shares

Asarco Incorporated, New York, has closed the sale of an additional 450,000 shares of \$2.25 depositary convertible exchangeable preferred stock and an additional 375,000 common stock purchase warrants pursuant to an option granted to First Boston Corporation to buy additional shares and warrants to cover over-allotments.

Avery Signs Final Pact For Uniroyal Chemical

Avery Incorporated has signed a final agreement for the previously announced acquisition of Uniroyal Inc.'s Uniroyal Chemical Company for approximately \$720 million in cash. Trisling Industries, Inc., a major shareholder of Avery, expects to make an equity investment of \$75 million in Avery as part of the financing. Avery Inc. is not connected with Avery International, the world's largest self-adhesive label manufacturer.

China, Morocco Boosting Exports of Barytes

Exports of barytes from China and Morocco are growing fast, while exports from once-important source countries — Chile and Peru for example — are continuing to fall, according to Roskill Information Services Ltd., London-based market research organization. China is now the world's largest producer, Roskill stated. Demand for barytes has declined with the reduction in oil drilling activity, Roskill noted, with scant chances for re-attaining earlier highs until the 1990's.

Millipore Acquires West Coast Software Maker

Millipore Corporation, a leader in the field of chemical separation and purification, has acquired Dynamic Solutions Corporation, a Ventura, Calif. based developer of software for analytical instrument data systems used by laboratories.

Pharmacia Boosts Net Income 16 Percent

Pharmacia AB, Uppsala, Sweden, raised its income after net financial items to \$426 million in the first six months of 1986 from \$368.8 million a year ago, as sales increased to \$1,787 billion from \$1,703 billion.

Union Carbide Hikes Second Quarter Net Income

Union Carbide Corporation has revised upward its second-quarter net income to \$388 million, reflecting a \$333 million extraordinary gain, principally from divesting its battery products business. Income a year ago totaled \$101 million.

Zemex Files 600,000 Shares of Common Stock

Zemex Corporation, New York, a diversified natural resource company mining and processing feldspar, kaolin, industrial sand, silica and tin ore, and a manufacturer of metal powders, has filed a registration statement with SEC for a proposed public offering of 600,000 shares of common stock through Tucker, Anthony & R.L. Day Inc.

Grace Redeeming 12% Percent Notes due 1990

W.R. Grace & Co.'s board of directors has approved the redemption of Grace's 12% percent notes due 1990, on September 15, at a price equal to their principal amount plus accrued interest. The notes will be refinanced with short-term borrowings at lower interest rates.

Prudential-Bache Lowers Betz Income Projection

Prudential-Bache Securities has lowered its earnings projections for Betz Laboratories, Inc., from \$2.48 per share this year to \$2.40 and from \$2.88 in 1976 to \$2.60, reflecting a more pessimistic outlook for industrial production in the second half. Stuart M. Pulviant, Prudential-Bache's chemical analyst, recommends that the stock be held with the objective of selling in the mid-40's. It was recently quoted at 38%.

Asarco Sells Additional 450,000 Shares

Asarco Incorporated, New York, has closed the sale of an additional 450,000 shares of \$2.25 depositary convertible exchangeable preferred stock and an additional 375,000 common stock purchase warrants pursuant to an option granted to First Boston Corporation to buy additional shares and warrants to cover over-allotments.

Allied-Signal Acquiring Endevco Division

Allied-Signal Inc. has signed a definitive agreement to acquire the Endevco Division of Becton Dickinson & Co. for an undisclosed price. Endevco, headquartered in San Juan Capistrano, Calif., produces sensors and transducers for both government and commercial use.

Amoco to Issue \$250 Million in Notes

Amoco Company, a wholly owned subsidiary of Amoco Corporation, Chicago, will issue an aggregate principal amount of \$250 million in notes to be sold by Morgan Stanley & Co. and priced to yield 7.996 percent. Proceeds will be used to repay outstanding debt and for other corporate purposes. The notes, guaranteed by the parent company, are not redeemable before August 15, 1993.

Oppenheimer Recommends Ausimont Compo, Chemed

Oppenheimer Inc.'s specialty chemical analyst, Charles J. Rose, is recommending purchase of the shares of Ausimont Compo Corporation, a specialty chemical company with a projected earnings growth rate of 25 percent per year. Ausimont Compo is the only foreign company on Mr. Rose's recommended list. Domestically, he is recommending Safety-Kleen Corporation and Chemed Corporation and telling his clients to avoid Nalco Chemical Company and Lubrizol Corporation.

Morgan Olmstead Puts Pfizer on Recommended List

Morgan Olmstead Kennedy & Gardner, Los Angeles based investment concern, has moved up its rating on Pfizer Inc. from "hold/switch" to "buy," citing an improvement in near-term prospects and a continued strong long-term outlook. The company's earnings are projected at \$3.95 per share this year and \$4.60 in 1987, as against \$3.44 last year.

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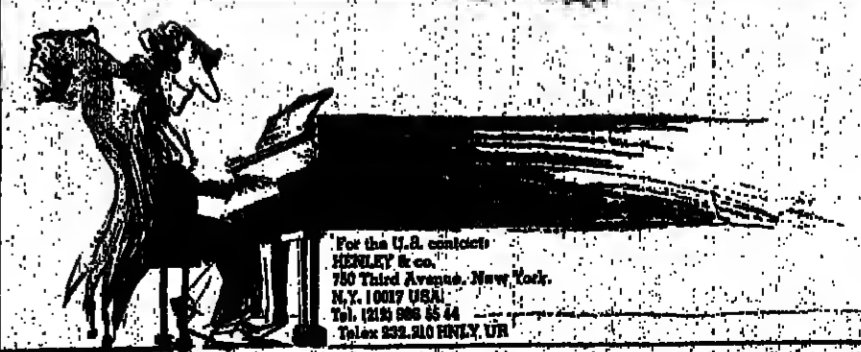
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AROMATICS

sure from the nylon industry. Contract terms permit the elimination of 10¢ per gallon of the TVA each quarter. This quarter, Phillips did not raise its price, but Texaco and other producers narrowed the industry's pricing spread by moving up 1¢ per gallon.

DYES — Food & Drug Administration says it is permanently listing Red 19 and Orange 17 as safe for use in externally applied drugs and cosmetics. The decision is based on studies indicating that the materials pose an insignificant cancer risk to consumers.

METHYLSTYRENE — American Hoechst Corporation says it is in the process of starting up its 35-million-pound-per-year para-methylstyrene (PMS) plant in Baton Rouge, La. In April, the company said it intended to have the plant operating by mid-year.

The facility, a joint venture with Mobil Chemical Company, was shut last year, and Mobil decided to leave the business this year. "Mobil did a very good job of creating a market, and American Hoechst will continue to supply it," says a Hoechst spokesman. It is said that the primary markets for PMS are the adhesives and coatings industries. Mobil has been marketing material from inventory this year.

MDI — Mobay Chemical Corporation, Rubicon Chemicals, Inc. and Dow Chemical USA say they are raising diphenylmethane diisocyanate pricing by 4¢ per pound, effective September 1.

The change will involve the removal of a 4¢-per-pound TVA granted by producers last quarter as a result of competitive pressure within the industry following an 8¢-per-pound industrywide price increase on April 1. BASF Wyandotte Corporation, the other domestic producer, says it is studying the situation.

Producers say the market is tight, but acknowledge that it was tight when the 4¢ per pound TVA was granted as well. "We felt that our customer base had accepted" the full extent of the 8¢ per pound increase ... (and were) confused by the TVA" which was initially granted by Dow, one producer comments.

Dow says that there was "less than total broad-based support" for the 8¢ per pound increase at the time the TVA was granted, and that "it appeared that we were not going to get all of the 8¢ in the industry." The TVA "served to do a lot to stabilize the increase," he says.

TOLUENE — Spot toluene is quoted between 83¢ and 85¢ per gallon, 5¢ per gallon higher than the previous week. Much of the movement is attributed by industry sources to this month's surging gasoline values.

An industry source says that no-load premium and middle-grade, unleaded gasoline have been selling well at the pump in recent months, and that these trends bode well for continued strong octane enhancer demand.

Another source says that lower prices at the pump this year should have a continuing effect on overall gasoline consumption as the incentive to commute via car pools decreases, and larger-sized cars regain some popularity.

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OILS, FATS & WAXES

Continued from Page 10

tomers' stocks will be low enough to draw buyers back into the market.

SUNFLOWERSEED OIL — This oil is quoted at 15 1/4 and 17 1/4 c. per pound, crude, f.o.b. Minneapolis. Trading has been extremely slow both in terms of export movement and domestic selling, sources say.

Export demand is described as very poor, due primarily to a lag in orders from Mexico, which has been a good buyer this year up to a month or so ago, industry sources say. Argentina's sunflowerseed oil is said to be selling at a \$40 per ton discount to the US product, making it difficult for US producers to compete on the world market.

Latest figures on domestic supplies show US stocks at the beginning of July at 24,011 tons. The figure for the beginning of June is 21,934 tons, according to Department of Commerce figures.

Domestic trading is slow, but it is hoped

that bullish customers who have been waiting for the market to fall further will need to re-enter the market soon to keep their stocks up. Also, US producers are waiting for the usually strong buying habits of the Mexicans to return as their supplies begin to fall as well.

FATS & GREASES

TALLOW — This market has been rather low, suffering from competition from palm stearine and coconut oil. Another factor in lower prices is the lack of any "worthwhile export trade," according to an industry source. The same factors are said to be keeping white grease down.

Exports of tallow for the first half of this year far exceed those of last year. Mexico, for instance, the largest importer of US edible tallow, increased its imports 128 percent in the period January through June 1988 over the same period a year ago. Trinidad's imports are up 327 percent, and Jamaica's are up 250 percent.

While the export demand has been described as poor, one industry analyst sees a large amount of nearby demand due to foreign countries trying to use the Commodities Credit Corporation credits before they expire, he says. The source sees forward buying abroad as slow.

The grease market is said to be benefitting from the drought in the Southeast. Oilseeds that are generally used in chickenfeed have not been faring well; therefore, chicken farmers have been adding more grease to their chickens' feed to help "fatten them up," according to an industry source.

Polymer Institute

Continued from Page 7

development of an artificial foot and the development of new processing techniques to allow its mass production.

The corporation also anticipates increasing its work for automotive manufacturers and suppliers who associate Dr. Frisch with the search for sturdy, lightweight plastic materials for use in cars and trucks. He developed the comfortable, durable and low-cost substitute for foam rubber that has been used for the past 25 years in car seats, armrests and dashboards. The polyurethane bumpers, fenders and side panels in use today also are an outgrowth of Dr. Frisch's work and that of his associates.

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Household Cleanser Sales

Continued from Page 9

hold cleansing products will continue to encourage both products and packaging innovations. Several such innovations were introduced in 1985 and early 1988. Among the most revolutionary are Procter & Gamble's "Tide Multi-Action Sheets," disposable foam sheets containing premeasured amounts of laundry detergents, all-fabric bleach and fabric softener.

Others include "Act" (Clorox), a dissolvable capsule containing liquid laundry detergent. The "Bloo Duck," a 1988 introduction from Sara Lee (Kiwit) is a thick, liquid toilet bowl cleaner contained in a bottle with a spout shaped like a duck's bill. This allows the user to apply the cleaner more directly and more neatly.

The demand for convenience products will continue to fuel the growth of multipurpose and concentrated products through 1988 and beyond. Laundry detergents will continue to be combined not only with fabric softeners but bleaches and enzymes as well. Similarly, all-purpose cleaners which both disinfect and clean such as "Tackler" ("Clorox") are likely to be popular.

Liquids also represent fast growing or emerging segments in several categories including laundry detergents and, more recently, automatic dishwashing detergents. Liquids account for over 30 per cent of laundry detergent sales in 1988, up from 25 per cent throughout 1985.

In 1988 all the leaders in the automatic dishwasher detergent category had introduced or announced intentions to introduce liquid versions of their products. These include "Brightside" and "Palmolive Automatic" (Colgate Palmolive), "Electrasol Liquid" (Economics Laboratory) and ALL (Lever Brothers).

In 1985 and early 1988, marketers of household cleansing products increasingly responded to changes in their consumer base through new approaches in promotion and distribution.

For example, in the laundry detergent category, a new product was positioned as a cleaner for baby clothes. (Mennen's "Baby Magic"), while marketers of starches and sizings developed light starches geared for younger, working consumers. In the future, marketers are likely to position products towards single persons, older persons,

teenagers and men, all of whom account for a growing proportion of shopping dollars.

Marketers are likely to adapt promotion and to seek new distribution outlets in response to shifting consumer profiles and buying patterns. Promotions such as instant redeemable coupons, sampling, and mail order coupons will become more important as consumers have less time to clip coupons or watch television.

Finally, manufacturers will increasingly seek such alternatives to traditional retail outlets as mass merchandisers, warehouse stores or buying clubs as these stores grow in popularity among value-conscious consumers.

Although overall sales growth for household cleansing products will continue to be moderate, marketers who anticipate and take advantage of certain trends are likely to outperform their competitors.

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Disinfectant Problems Cited

Continued from Page 5

grants in laboratories of at least four states. "The primary reason for our support...is related to the tests currently in use to measure the efficacy of disinfectants—especially the Association of Official Analytical Chemists' Use-Dilution test," he said.

Mr. Engel told the subcommittee the test is subject to significant variation in results and thus requires a high level of expertise to perform properly and consistently.

By having the test performed by a single laboratory, he said, the incidence of having an antimicrobial product pass tests in one state laboratory, and then fail in another, would be minimized if not eliminated.

Mr. Engel disputed the contention by Sen. Sarbanes and others that many disinfectants do not work.

"Considering that the role of hard surface disinfectants in hospitals and other health care facilities is to assist in reducing the numbers of pathogenic organisms to non-hazardous levels on hard surfaces...those accusations are not well founded," he said.

Mr. Engel added that CSMA knows of no validated instances where the effectiveness

of current hard surface disinfectants, when used according to label instructions, has led to cross-infection in hospitals.

Sen. Gore said he proposed his bill because "many hospitals are just becoming aware of the problem and will need our help to solve it."

He said many hospitals had "blindly trusted" the false claims of some manufacturers in behalf of their products, adding that, "There are a few bad actors in this industry."

Other witnesses included Dr. Marjorie Rhodes, assistant commissioner of the Florida Agriculture Department, and a leader in the fight against mislabeled disinfectants.

Urging reopening of the EPA laboratory, Dr. Rhodes said Florida has tested disinfectants for 18 years and has consistently found 15 to 30 percent to be "ineffective"—which she said meant that a product either did not kill germs or actually contained living bacteria.

Charles Shaffer, former director of the Beltsville laboratory, said few hospitals are equipped to test disinfectants and generally "placed their faith" in EPA approval of such products.

Mr. Shaffer, now retired, said it had been suggested that states take over testing, but claimed few were likely to do so because it was "more efficient and logical" to have one main center perform the tests.

"Like most public health issues, this responsibility rests squarely with the Federal government," he said.

DPT Study

Continued from Page 5

age lawsuits have been settled or lost by drug companies.

"What proof does Lederle offer that it needs upwards of \$50 million per year to pay for DPT-related liability expenses or that it could not get liability insurance in the private sector for less than \$50 million per year?" Mr. Schwab asked.

He also noted that Lederle and Connaught now have a monopoly market for the vaccine, which is mandated by law for all children entering school.

SIZE OF SETTLEMENTS

A report prepared by the subcommittee staff showed that \$16.2 million was paid in settlements by seven US vaccine manufacturers to 62 children injured by vaccines during the past five years—an average of \$300,000 per case.

Of the cases that went to trial, vaccine manufacturers won four and lost six. Five are being appealed.

Mr. Schwartz said the GAO investigation will "help us find out why we are paying such a high price for an old, crude vaccine instead of being offered a safer one."

For the past two years, Congress has been considering various proposals designed to ensure at least some type of non-court-ordered compensation for families of children who have died or suffered permanent injury as a result of vaccine reactions.

The proposals have also sought to preserve a limited right to sue a manufacturer and to provide incentives for drug companies to develop safer vaccines.

However, no proposal has drawn support from both the drug industry, which wants to keep liability awards as low as possible, and parent groups, who want the right to seek large awards.

As a result, neither the House nor the Senate has been able to move legislation dealing with the compensation issue.

Both chambers are expected, though, to approve bills ordering the Health and Human Services Department to allocate vaccines, collect data on adverse reactions and promote research into safer vaccines.

After the Senate Labor and Human Resources Committee approved the vaccine liability bill on August 6, Sen. Paula Hawkins (R-Fla.) said she dropped the compensation provisions from her original bill because it compromise could not be agreed to by drug firms and parent organizations.

ALIPHATIC ORGANICS

Caprolactam Supply Tightness Is Expected to Persist for Present

Caprolactam producers report that the market for the material is "quite tight," both on the domestic and world-wide levels. Supply and demand have been in tight balance for the last several years, they say.

One producer attributes the closeness of supply and demand primarily to strong fiber markets. Caprolactam is a nylon precursor. "It's driven by fiber demand," he explains, and he specifies that "it's primarily the home furnishings fiber demand."

Non-fiber markets are also performing well, according to a caprolactam marketer. He cites film and plastics uses in particular, and says that these uses may be growing at a rate of 7 percent or more.

These applications are growing from a relatively small base, however. The supplier estimates that the market breakdown is approximately 90 percent for fiber uses versus 10 percent for film and plastics applications.

OVERALL GROWTH
One maker of caprolactam projects "overall demand up 3 to 4 percent for the full year 1988, compared to 1985. That's what the industry has seen for the last 5 to 8 years." Caprolactam output increased by 5.5 percent in 1985 over previous year levels (CMR, 3/31/86, p.3).

The industry's tight balance is not only a function of demand. Total industry capacity is currently about 1.2 billion pounds, domestically. It is common knowledge in the industry, however, that approximately 50 percent of Nippro Inc.'s reported capacity of 360 million pounds is not currently operating. Nippro reports that its major unit is operating at near capacity, however.

The only current plans for expansion of US capacity are with Allied (CMR, 3/31/86, p.3). The company is in the middle of a long term debottlenecking project. An Allied spokesman said last week that debottlenecking will add about 5 percent to the company's caprolactam capacity in 1988.

As for major grassroots capacity additions, one maker says "I think that it is a matter of waiting and seeing, because the industry has experienced down cycles in the past also."

Another maker agrees that caution is in order because of uncertainty about the future of the general economy. "If the economy goes down at all," he reasons, "fiber business will go right down the tubes." People will be less likely to replace carpet in a weak economy, he points out.

The effect of longer wearing carpets—and resultant declines in fiber demand over time—are also factors that bear watching, he says.

Another observer asserts that "the econ-

omy just hasn't shown signs of continued growth. So no one will be aggressive about making the kind of expenditures necessary for new capacity."

The future disposition of the currently idled Nippro capacity is also a question mark to competitors, and uncertainty on that score

PRICES TRENDLINES

WEEK ENDING AUG. 15, 1988

CHANGES/UP

None

CHANGES/DOWN

None

ALIPHATICS INDEX

The Aliphatic Organics Index reflects the price of 20 representative materials in this sector and the quantity of each produced in 1985.

Aug. 15, 1988	222.80
Aug. 7, 1988	222.80
July 18, 1988	222.80
Aug. 18, 1985	203.80

Chemical Prices Start on Page 32

is likely to dampen impulses toward construction of major new facilities.

One maker says, however, that if demand continues to expand, the absence of new capacity could make for shortages in the future. Producers say the US market is currently tighter than the overall world market.

"Another problem is the raw material situation," says a producer. He complains of raw material price fluctuations keyed to various OPEC actions of the recent past. "It has been difficult to keep in perspective with raw materials going up and down," he complains. "No one knows where it is going to go," he sighs.

Another source reports that prices for caprolactam on the merchant market are currently moving up "with benzene and cyclohexane on an upward swing." He says that prices declined from levels reported in late March, and then firmed. He asserts that selling prices currently are in the vicinity of 82 cents to 84 cents per pound for the largest accounts. He suggests that prices are in the low 70's for medium accounts.

ACETONE—This material has not weakened in price as much as crude oil or some other crude derivatives during the depression in oil prices, according to a producer. Acetone exports are described by the producer as "much better than last year."

ALIPHATIC ORGANIC IMPORTS: JUNE

BUREAU OF CENSUS FIGURES FOR THE KEY ALIPHATICS

	QUANTITY	JUNE \$ VALUE	QUANTITY	MAY \$ VALUE
Acetic acid	1,994,555	879,200	4,359,777	368,530
Acetic anhydride	1,000	1,000	1,000	1,000
Butadiene	24,982,281	2,847,078	56,161,248	6,478,641
Chloroacetic acid	1,000	1,000	1,000	1,000
Ethanol (industrial)	2,385,445	701,339	2,335,041	16,967
Ethanolamines	4,430,811	4,764,658	10,500,754	10,500,000
Ethyl acetate	192,859	148,451	121,708	83,633
Ethyl acrylate	1,000	1,000	1,000	1,000
Ethyl acrylate	32,555,114	4,552,043	22,133,349	3,882,958
Formic acid	1,181,421	195,385	117,708	17,440
Glyoxal	70,133	23,400	5,193,458	1,618,018
Hexamethylenetetramine	166,181	85,505	231,994	74,623
Lactic acid	1,000	1,000	1,000	1,000
Methanol	995,852	544,770	948,204	521,113
Methyl acrylate	18,415,460	2,855,178	86,820,000	10,251,080
Methyl ethyl ketone	1,355,718	231,497	7,654,824	1,052,551
Methyl-2-pyrrolidone	9,182,724	785,048	2,005,114	295,555
Octanol	35,700	44,329	44,348	44,672
Octyl alcohol	1,444,119	364,048	1,355,798	817,798
Pentamethylene di-PE	934,788	535,374	1,496,822	772,499
Propylene oxide	9,877,885	1,005,141	10,545,110	1,255,518
Stearic acid	1,777,355	549,425	8,025,515	1,191,025
Tetrahydrofuran	361,800	587,847	347,500	564,498
Trichloroethylene	1,557,890	272,448	2,808,825	2,822,193
Vinyl acetate, unpolymerized	220,884	588,638	72,816	247,888
Vinyl pyrrolidone	1,000	1,000	1,000	1,000

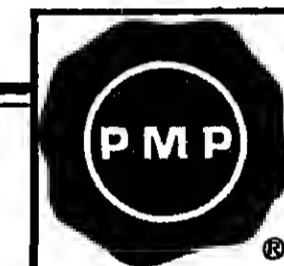
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ALIPHATICS

and he says that domestic demand has also improved.

These welcome trends have combined to shore up the price of acetone, he concludes, and have kept it firmer than phenol during 1988.

The maker says that the US industry faced net imports through June of 1988 of 20 million pounds. The same period in 1988 found the industry with net exports of 3 million pounds. The trend, which he attributes to the weakening of the dollar, "might be better by the end of the year."

As for domestic demand, he predicts that 1988 will finish about 80 million pounds above last year's total, which translates to growth of approximately 4 percent. That compares to a negative 3 percent growth rate for the full year 1988, the maker says.

A competitor shares his view of the export market. "Export demand has been

quite strong," he relates, and he also says that imports appear to be abating somewhat.

He attributes some significance to the weakening dollar, but he also cites an additional factor that has improved the health of the acetone industry. He says that reduced phenol output has reduced production of coproduct acetone.

Demand growth is likely to arise primarily from methyl methacrylate and bisphenol-A end markets, according to a maker.

He describes bisphenol-A as a "mixed blessing," however. The material is a raw material for polycarbonate resin, which is one of the fastest growing of all plastics. But bisphenol-A production consumes phenol and acetone in a 2:1 ratio. The result is the production of more phenol than would be necessary to generate the necessary amount of acetone, and resultant oversupply of acetone coproduct.

The maker also says that short term acetone demand for coatings will be fairly strong, but will weaken in the longer term as a result of the trend toward water-borne formulations.

Pricing for largest customers is said to be in the vicinity of 15-1/2 cents to 16-1/2 cents per pound, with average customers (buying in tank car quantities) paying 21 cents to 22 cents per pound.

One producer said that as of last week its list price East of the Rockies is 22 cents per pound, with a 1 cent higher list West of the Rockies.

Plastics Margins

Continued from Page 5

been "reasonably happy" with LDPE margins the past three years. He says LDPE operating rates have risen to the point where margins have grown enough to attract new capital.

High density polyethylene has seen strong growth, but Mr. Scott notes that pricing has been weak. This is because "surplus LLDPE has been dumped into the injection molding market." He says poor pricing will continue in the HDPE market until LLDPE prices rise enough to "attract LLDPE capacity away from HDPE markets." Yet, Mr. Scott also notes that demand continues to grow for HDPE, but no new plants are in the works, "so supply-demand should improve."

Another speaker at the meeting, Martin Fernandi, vice-president, marketing at Ampacet Corporation, noted that HDPE growth was up 4.5 percent through the first five months of May, but in the same five months of 1988, HDPE grew at 6.4 percent over the previous period in 1984.

He partly attributed the slower growth to a 12 percent drop in HDPE pipe sales through May, which he said was a reflection of the soft housing, agricultural, and oil markets. On the up side, though, Mr. Fernandi said HDPE use in film applications was 10.6 percent ahead of year earlier levels, while blow molding applications, its largest end-use, ran 5.9 percent ahead of last year. Ampacet is a major supplier of additives and colorants to the plastics industry.

Turning to polypropylene, Mr. Scott says the business is benefitting from a combination of "rapid growth" and falling feedstock costs. He says demand growth is outpacing new capacity, while raw material propylene prices have fallen 40 percent since last winter.

The US is in a good position to benefit from these factors, he noted, since producers here are the lowest cost propylene suppliers in the world. Mr. Fernandi highlighted this advantage by noting that while domestic sales of PP were 3.3 percent higher in the first five months of 1988 compared to 1985, exports sales surged almost 30 percent above year earlier levels.

Mr. Scott also said that polystyrene producers were having their first good year since 1979, due not only to lower cost feedstock, but also to extensive consolidation and restructuring in the industry. However, Mr. Scott also pointed out that PS "suffers from vertical integration," explaining that PS is often used as an outlet for excess supplies of styrene and ethyl benzene.

In general, Mr. Scott said he was "fairly optimistic about plastics through the early decade." He said demand is growing fairly well, and most of the new capacity due on line in the decade is already in place. Furthermore, polymers are outgrowing more traditional rivals, such as metal and glass, and new market opportunities are coming into use.

FIFRA Finally Gets

Continued from Page 3

extension within two years prior to the expiration of the extended patent.

If the extension of the patent is less than two years, testing could begin within one year prior to the patent expiration. It would not be considered a patent infringement to conduct tests on a pesticide not receiving a patent term extension two years prior to the expiration of the patent.

On the related issue of data compensation — how much money a company must pay to make use of another company's research data on a pesticide — the panel approved a proposal by Sen. Richard Lugar (R-Ind.), which provides for nonbinding arbitration and judicial review in a US court of appeals of the arbitration decision.

PPA had argued that because arbitration decisions could cause small producers to pay huge sums to make use of a patent-holder's health and safety data, the small producers should have an opportunity to begin their own time-consuming testing at an early date. The early start would allow the companies to apply for a pesticide registration as soon as the original maker's patent on the pesticide expired.

In other actions, the committee approved amendments by Sen. Paula Hawkins (R-Fla.), to require EPA to issue groundwater residue guidance levels to protect against pesticide contamination, and by Sen. Helms to prohibit states, with limited exceptions, from setting tolerances that are more stringent than the Federal limits.

The Hawkins groundwater amendment is supported by all groups involved in the FIFRA debate and will be added to the House bill as a substitute for the current provisions.

However, environmentalists strongly oppose the Helms uniform tolerance proposal and say they will fight to remove it. The situation is reversed in the House, where Rep. Pat Roberts (R-Mont.) says he will attempt to add the prohibition to that chamber's bill.

The centerpiece of both the House and Senate bills is a new accelerated timetable for EPA's reregistration of pesticides currently on the market, but for which much health and safety data is lacking.

Those chemicals were grandfathered in when the current law was drafted in 1972. But of the 600 active ingredients that new safety checks, EPA has completed action on just 127 in 14 years.

EPA says the problem is that the current law is too cumbersome, with a maze of regulatory steps and appeals processes and long deadlines for the gathering of data. Consequently, many of the chemicals on the market have never been tested to determine their safety.

Under the new legislation, EPA is required to reregister pesticides approved before November 1984, in about nine years. To help assure that funding will be available for this effort, companies seeking reregistration must pay one-time fees ranging up to \$150,000 for each active ingredient.

Fees can be waived or reduced for small businesses and for companies producing minor-use pesticides, such as the members of the Chemical Specialties Manufacturers Association.

ICI Buys Glidden

Continued from Page 7

claims a market breakthrough in metallic automotive finishes for its water-based "Aquapec" industrial products. Annual research and development spending on these and other projects is nearly \$45 million, the company says.

The move will bring to well over \$1 billion the amount ICI has spent over the past 18 months on acquisitions in the US as part of its strategy for expansion in consumer, specialty and performance chemicals.

Harry Corless, chairman of ICI Americas, Inc. called the acquisition "another major step" in ICI's objective of increasing its business in the US. ICI sales in the US, which reached \$1 billion in 1982, is now over \$3 billion. Mr. Corless says the company's increase in profits during the four-year period has been even more impressive due to the pace of development of its specialty and performance (chemicals) businesses.



Sen. Jesse Helms who sees benefits for practically everybody in FIFRA legislation.

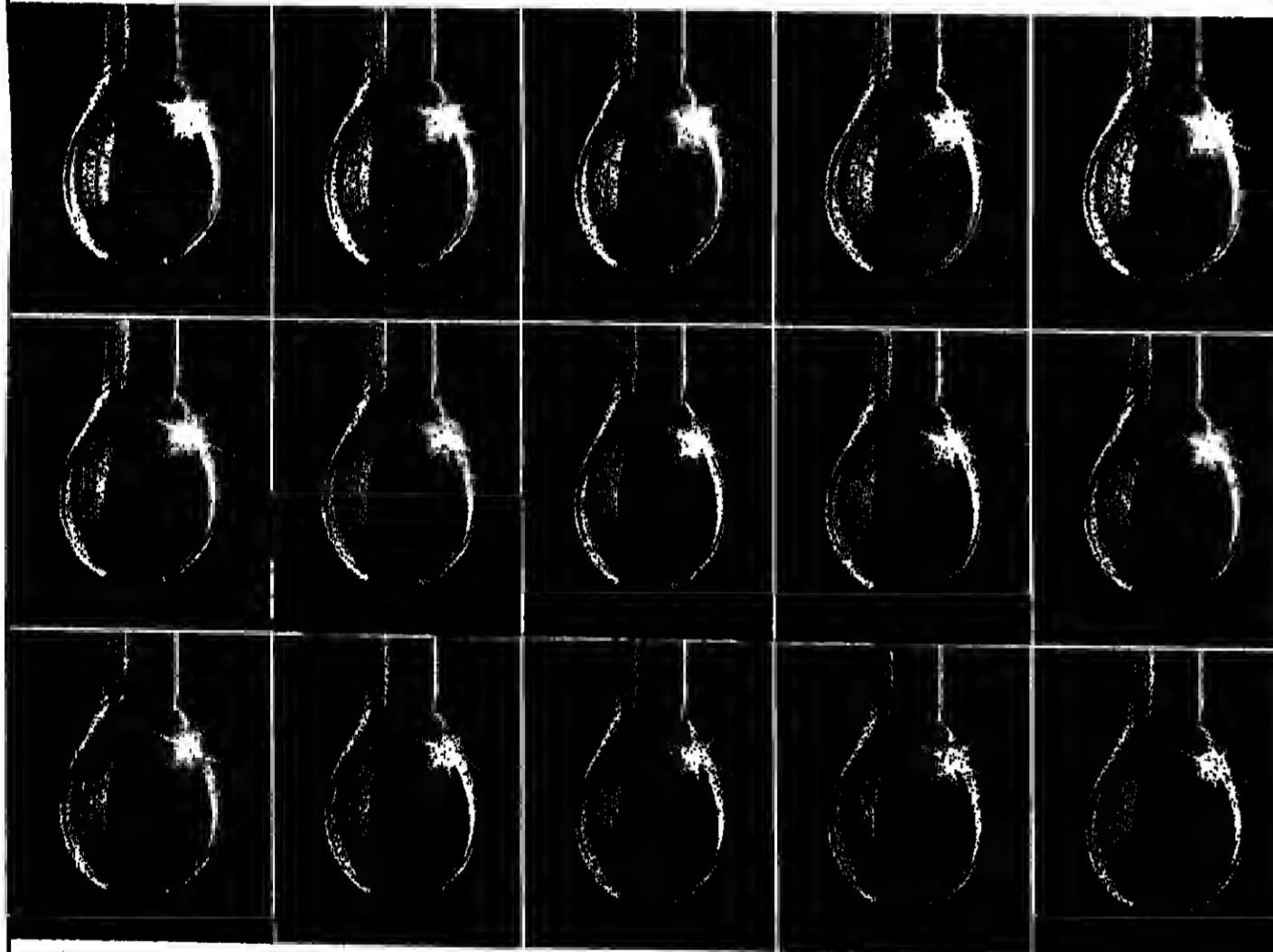
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DRUGS & FINE CHEMICALS

Methionine Prices Gain in '86, Offsetting Declines Last Year

Methionine producers now say further price increases are possible at the end of 1986 or, more probably, the beginning of 1987.

The most recent increase was effective April 1, initiated by Rhone-Poulenc and quickly followed by Degussa Corporation and Monsanto Company. Price increases were attributed to a weaker US dollar, which has dropped further since then. Both Rhone-Poulenc and Degussa import some material (Rhone-Poulenc from France, and Degussa from Germany). Regardless of the dollar, however, selling prices are still far below the levels of 1981 partly because of competition levels in 1985. This could be the justification for further increases, hint some producers.

In 1984, truckload price for contract customers of Degussa and Rhone-Poulenc was about \$1.90 per pound. The current price is \$1.20 per pound, up from \$1.07 per pound. Spot purchasers pay \$1.23 per pound for truckload quantities. One ton cost \$1.23 per pound (\$1.25 for spot buyers) and \$1.26 per pound for less than one ton (\$1.29 for spot buyers).

Meanwhile, Monsanto's "Alimet" (liquid methionine hydroxalanalogue) moved up to 99 cents per pound for contracted customers up from 89 cents per pound. Spot purchasers pay \$1.02 per pound. The company's "MILA," (methionine hydroxalanalogue calcium), a dry product, costs contract customers 97 cents per pound, up from 89 cents per pound. Spot buyers pay \$1.

CATTLE FEED ADDITIVE

Unlike lysine, methionine pricing is not closely related to those of soybean meal and fishmeal. One observer comments that methionine's price would have to be \$2.40 per pound before soybean meal and fishmeal producers would consider using less, and could dip to as low as 50 cents per pound before they would consider using more.

Research is being done to increase methionine's usage as a cattle feed additive. The primary problem has been finding a way for the methionine to bypass the cow's rumen unchanged. One methionine producer explains that for methionine to be digested, it must reach the small intestine intact.

In cows, the methionine first goes to the rumen. It is then "attacked" by acids, broken down, and ceases to be as effective. The producer says a coating of some sort will be needed to prevent the breakdown. Suppliers claim that some tests have been successful, but not on a consistent basis. Currently, un-

der 1 million pounds of methionine goes to cattle feed yearly.

As demand is tied almost directly to poultry consumption, methionine is expected to see growth between 3 and 5 percent in 1986, in line with poultry output. Some estimates

PRICES TRENDLINES

WEEK ENDING AUG. 15, 1986

CHANGES/UP

None

CHANGES/DOWN

None

DRUGS INDEX

The Drugs & Fine Chemicals index reflects the prices of 10 representative materials in this sector and the change of each produced in 1985.

Aug. 15, 1986	211.4
Aug. 8, 1986	211.8
July 18, 1986	211.4
Aug. 14, 1985	211.4

Chemical Prices Start on Page 11

the poultry segment accounts for about 10 percent of methionine demand, it notes. Overall US demand is estimated between 90 million and 100 million pounds annually, with some opting for the lower end of the scale, and other claiming the total is closer to the upper limits.

Imports are up through May, compared to the comparable period in 1985. About 12 million pounds of methionine have entered the US, compared to about 10.6 million pounds last year. Of the 12.3 million pounds almost 12 million pounds are from France.

Last year through May, a little under 1 million pounds had come to the US from France. Conversely, imports from Germany have dropped to 290,000 pounds from 490,000 pounds, and Japanese imports are down about 30,000 pounds from 98,000 pounds.

MSG - Pricing is still considered soft. It has been all year, but some recent developments may cause a turnaround.

According to a major source of MSG, Taiwanese recently announced a 7 to 10 percent price increase of their MSG. The reportedly were not specific about cost.

DRUG & FINE CHEMICAL IMPORTS: JUNE

CENSUS BUREAU REPORTS ON THE TOP DRUGS

	QUANTITY	VALUE	QUANTITY	VALUE
Acetaminophen	880,282	1,594,544	739,889	1,416,548
Benzenoid drugs, n.s.p.	201,373	2,112,000	177,812	2,441,779
Brucine	85,400	37,888	455,300	1,771,440
Caffeine	385,880	1,588,408	4,065,700	2,299,840
Cholic Acid	4,249,778	2,588,981	224,109	1,000,840
Cream of Tartar	247,530	138,449	275,248	1,030,910
d-pantothenic acid	435,728	1,825,508	245,881	1,240,781
Iodine, crude	108,028	805,254	7,168,800	1,897,720
Mono sodium glutamate	7,251,115	3,898,435	214,549	2,780,271
Niacin, pharmaceutical grade	99,207	214,383	225,407	2,780,271
Penicillin G salts	181,844	1,810,828	13,800	86,024
Phenylphthaline HCl	18,012	1,098,848	1,702	8,530
Potassium sodium tartrate, (Rochelle Salt)	88,018	36,585	11,002	1,897,720
Quinidine	425,888	1,808,033	735,119	3,118,800
Quinine and its salts	110,554	238,088	185,845	2,441,779
Saccharin	148,095	315,389	117,899	2,441,779
Steroid hormones, synthetic	733,436	497,382	2,121,146	2,441,779
Sulfathiazine	185,672	782,711	74,078	2,441,779
Tartaric acid	31,349	149,228	90,189	2,441,779
Vitamin A	325,381	335,216	499,481	1,897,720
Vitamin B	378,712	2,885,044	185,101	1,897,720
Vitamin C	52,828	780,048	308,618	1,897,720
Vitamin E	231,749	3,054,989	409,481	1,897,720
Vitamin K	13,883	801,044	108,818	1,897,720
Vitamin P	1,425,843	4,902,498	336,480	1,897,720
Vitamin, provitamin, etc., n.s.p.	271,810	1,245,470	124,381	1,897,720
Woolgrasses, n.s.p.	988,702	807,271	44,500	1,897,720



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DRUGS & FINE CHEMS

prices. MSG prices have recently been in the 74c. to 79c. per pound range.

The reasons behind this move are thought to be twofold. First, the Pacific Ocean Freight Company announced that effective Aug. 15, shipments from the Far East would be tagged with an additional freight cost of 1c. to 1 1/2c. per pound. The second reason, expected to affect everyone, is the depletion of Soviet material on the world market, because of the Chernobyl nuclear disaster.

Until these developments, pricing was called soft because of competition levels. One importer complains that there are too many companies involved in the market, and that this has kept pricing soft.

However, it is thought by some sources that the Taiwanese decision will influence others to alter their pricing. One importer says that his company has recently decided to reduce some of its TVAs, for example.

BOTANICALS

LOCUST BEAN GUM - Pricing has fallen during the last few months, but is still far above normal levels.

Price is currently pegged at about \$4.95 per pound. This is a dip from the \$6 to \$8.75 per pound pricing of late last year, but almost double the \$2.50 per pound price of late 1984.

Sources had expected prices to soften to between \$4.50 and \$5 per pound. Now, they are waiting for new crop in September or early October. According to one source, at that point prices could either rise or fall, depending on the crop.

Supplies are considered readily available by one source, who says that concentrating on "clearing their shelves," in order to make room for the new crop. He mentions that no one wants to maintain an inventory now, in case prices fall after the new crop.

Imports are up for the first five months of 1986. Through May, 2.39 million pounds came into the US, as opposed to 1.9 million pounds through May 1985.

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MAGOX® 98 MAGOX® 95 MAGOX® 90 MAGOX® Slurry	Sugar Refining	Neutralization of raw cane and beet sugar juices reduces evaporator scaling.
MAGOX® 98 MAGOX® 95 MAGOX® 90 MAGOX® Slurry	Waste Water Neutralization	MgO is a safer, more cost-effective acid neutralizing agent than other bases.
MAGOX® 98 MAGOX® 95 MAGOX® 90 MAGOX® Slurry	Pulp and Paper	Used in the production of magnesium bisulfite pulping liquors.
MAGOX® 98 MAGOX® 95 MAGOX® 90 MAGOX® Slurry	Drilling Muds	Used as a buffer, corrosion inhibitor and viscosity control ingredient.
MAGOX® 98 MAGOX® 95 MAGOX® 90 MAGOX® Slurry	Rayon	To make Mg acetate which is used in cellulose acetate production.
MAGOX® 98 MAGOX® 95 MAGOX® 90 MAGOX® Slurry	Water Treatment	Silica and heavy metal removal.
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Carbide Discloses

Continued from Page 3

pect as a way of trying to exert pressure on the Indian government to settle out of court. Mr. Ahmad said, however, that if the company has "hard evidence" of sabotage, it should turn over such information to Indian authorities. He said the company would be obstructing justice by withholding such evidence.

"That's absurd," said Bud Holman, Carbide's outside legal counsel, who countered that the Indian government hasn't disclosed "a single bit" of its Bhopal investigation. "Is their failure to disclose an obstruction of justice?" Mr. Holman suggested that the government is withholding its own evidence of sabotage because it would hurt the government's case against Carbide.

Mr. Ahmad, who called Mr. Holman's remarks "absolutely ridiculous," insisted the government has "not come across any such evidence." He said the government would

have publicly disclosed evidence of sabotage if it existed.

In its statement last week, Carbide said it will "share our conclusions with the Indian government upon completion of our pre-trial investigation."

Meanwhile, Union Carbide India, owner of the Bhopal plant, made provisions last week for a \$6.7 million writ-off of the plant. Union Carbide India is 50.9 percent-owned by Union Carbide Corporation.

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HEAVY & AG CHEMICALS

Potash Makers See

Continued from Page 7

prospects for potash remain bleak. Harry Baumes of Chase Econometrics, BalaCynwyd, Pa. says planted corn acreage in the US next Spring will fall 8 percent to about 70 million acres. Corn consumes about one-half of all potash sold in the US.

Mr. Baumes says that acreage planted is likely to be more heavily fertilized, but total potash consumption in the US should still fall about 3 percent this fertilizer year.

While most analysts concede that domestic demand for fertilizers will decline for another year, they suggest that the seed for a better business climate is in place. Mr. Baumes notes that while domestic plant nutrient consumption will be down 3 percent to 5 percent this year, greater knowledge of government farm policy allows for farmers and their creditors to plan the new season with more certainty. He says an established farm program puts farmers in a far better planning position than the uncertainty that greeted them last Fall, and the results should benefit all fertilizer producers, especially makers of low-priced potash.

CONSUMPTION WILL FALL.
A potash producer says fertilizer consumption in the US will decrease this year, but he adds, the potash producers industry "has a little better understanding of demand expectations and can gear production in shipments better than (they did) last year when they had a difficult job of coordinating (supply with demand). However, he also points out that "significant" domestic demand for fertilizers is still two to three years down the road.

Meanwhile, producers pin their hopes on the export market. One producer relates that exports through most of 1985-1988 were running a dismal 21 percent behind year earlier levels, before a late surge in overseas orders closed the deficit to 9.5 percent (2.8 million tons, K₂O basis). The producer expects this trend to carry over through 1988-1989.

He says renewed buying interest from China and elsewhere will push North American exports in the current fertilizer year 10 percent to 15 percent above the 3.1 million tons of K₂O sold overseas in 1984-1985. The producer adds that this anticipated surge in export consumption should roughly offset the projected decline in North American consumption of potash.

A spokesman for Canpotex, the Canadian potash export cartel, is slightly less optimistic about the export market, at least in the near term. He says excess world capacity has made selling potash at a price that covers producers' cash costs increasingly difficult. He currently quotes potash export prices in the \$70-per-product-ton range, f.o.b. Vancouver, B.C., down slightly from Spring quotes.

In his view, export shipments in the first half of the current fertilizer year should reach 1.7 million metric tons of product, up slightly from last year, and roughly the same as the six month period ended June 30, 1986.

He says China has been purchasing potash

from Canpotex again in calendar year 1986, after staying out of the market last year. The Chinese, he adds, will buy a total of 400,000 metric tons of product this calendar year, which is "not like 1984, but it's headed in the right direction."

Mr. Baumes of Chase Econometrics notes that while China is more actively purchasing potash, competition in the world market from Israel, Jordan, and Soviet Bloc nations has intensified, no longer guaranteeing North

PRICES TRENDLINES

WEEK ENDING AUG. 16, 1986

CHANGES/UP

Caustic Soda solution, 530 per ton

CHANGES/DOWN

None

HEAVY & AG INDEX

The Heavy & Ag Chemicals Index reflects the prices of 18 representative materials in this sector and the quantity of each produced in 1985.

Aug. 15, 1986	113.69
Aug. 8, 1986	113.69
July 18, 1986	113.69
Aug. 14, 1985	113.69

Chemical Prices Start on Page 32

American exporters dominance in the international market.

North American potash prices reflect the current Summer slowdown in business activity. Currently Saskatchewan producers quote a price of \$30 per ton, 60 percent K₂O for standard potassium sulfate, f.o.b. mine. This compares to a Spring high of \$44 per ton, same basis.

BASES & SALTS

CAUSTIC SODA — Dow Chemical USA, citing improved demand and reduced supplies, has posted \$30 per ton, off-list, price increases for caustic soda solution, effective immediately for spot buyers, and as terms allow for contract customers.

Dow's current caustic solution follows a \$10 per ton price increase that failed last month. At the time, spot prices for roller sized purchases of liquid caustic in the US Gulf Coast were \$10 to \$20 per ton.

Also during the month, two large chlor-alkali facilities were shutdown in Texas, adding to a several year trend of capacity rationalization in the business. On July 7, Dow closed a chlor-alkali unit in Freeport with a rated capacity of 1,375 tons per day of caustic soda. At month's end, Du Pont shut its Corpus Christi chlor-alkali unit with a combined chlorine and caustic soda capacity of 2,500 tons per day. Dow says these shutdowns, coupled with "modest" demand growth has driven chlor-alkali operating rates to near 66 percent of on-line capacity.

Dow says caustic demand in the first half

INORGANIC CHEMICAL OUTPUT: MAY

SELECTED FIGURES IN SHORT TONS FROM THE CENSUS BUREAU.

	MAY '86	APRIL	MAY '85
Aluminum sulfate, commercial	87,834	87,079	84,882
Calcium carbide, commercial	10,130	10,220	10,090
Calcium phosphate, dibasic anhydrous	38,825	40,581	35,517
Caustic soda, dry	10,890	10,576	22,142
Caustic soda, liquid	946,468	925,640	922,824
Chlorine, gas	587,325	575,359	555,755
Chlorine, liquid	582,547	585,501	524,901
Hydrofluoric acid	273,712	281,976	245,827
Hydrogen peroxide	15,165	11,545	10,401
Phosphoric acid	12,482	12,282	10,311
Phosphoric acid, anhydrous	31,671	31,515	32,468
Phosphoric acid, wet	2,389	1,828	1,834
Phosphoric pentoxide	5,363	5,527	5,020
Potassium hydroxide	7,694	7,548	6,594
Potassium pyrophosphate, liquid	1,591	1,407	1,153
Sodium chloride	22,733	21,264	24,440
Sodium metal	6,395	6,173	7,438

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of 1986 has climbed above your earlier levels in several segments. Sales to the chemical industry climbed 4 percent in the first half, demand in the petroleum refining business was up 3 percent in the period, while wood pulping used 3 percent more caustic and paper and paperboard production took 4 percent more solution. Textiles, a smaller end-use, used 11 percent more caustic in first half 1986 than in 1985.

At the same time, Dow says caustic soda's trade balance has improved this year. Partly due to the softer dollar, exports of caustic soda from the US have increased this year, while imports are on the decline. These factors, improved demand and reduced supply have helped soak up extra caustic supplies, and have improved the balance between caustic and chlorine supply and demand. These conditions, coupled with "the need to restore price and margins in the chlor-alkali business," were the driving forces behind Dow's current price initiative.

Dow's current list prices for caustic will remain unchanged. The company also says that upon Superfund reauthorization, it will add the Superfund tax on chlorine and caustic soda as a separate line item to each invoice.

SULFUR DIOXIDE — Stauffer Chemical

Company says it will increase the price of liquid sulfur dioxide by \$10 per ton to \$100 per ton, bulk, effective September 1 or a contract permit. Terms are f.o.b. Houston, Ind., Baton Rouge, La., Houston, Tex., and Martinez, Calif.

Stauffer says the increase covers higher sulfur costs and other production increases incurred since SO₂ prices were last raised over two years ago.

INDUSTRIAL GASES

Air Products and Chemicals, Inc. says it will increase the list price of its specialty gases and equipment, effective September 1, 1986. The list prices of most single component gases will rise 7 percent while most blended gas prices will increase 12 percent. The list price of gas-related equipment will increase 7 percent, the company says.

Air Products says these increases, the first since December 1984, will affect over 10 percent of the company's specialty gases.

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COATINGS & PLASTICS

Organic Peroxide Price Hike Holding Despite Overcapacity

Producers report that July's 5-cent-per pound increases in MEKP (methyl ethyl ketone peroxide) prices and 6 to 8 percent increases in peroxydicarbonates costs are holding, "for the most part."

All suppliers except Reichhold Chemicals Inc., a smaller player in the market, have hiked prices for the peroxides.

Oxo producer, Catalytic Resources Inc., which does not produce MEKP, raised prices for its dry benzoyl peroxide (BOP) from \$4.66 per pound to \$5.25 per pound, effective July. Other BOP producers have yet to follow with increases.

Although they assert that the increases have been holding in most cases, producers have been having difficulty getting MEKP prices to stick to certain areas of the US, particularly on the West Coast. One source blames this on what several call the "bizarre pricing behavior" of one large producer, complaining that the firm has been dumping foreign-produced MEKP and BOP (the only peroxides which can be transported safely and relatively inexpensively) at slightly above cost in an attempt to steal market share. The source reports that the firm's parent company is currently involved in a major lawsuit with the EEC involving charges that it has been unfairly undercutting BOP prices, threatening to push a British producer out of business. "If the dumping continues, the source threatens, 'we'll see them in court.'"

DUMPING DENIED

A spokesman for the company firmly denies these dumping accusations, insisting that imported material makes up an insignificant portion of the total amount of MEKP and BOP it offers on the domestic market.

Both MEKP and BOP market segments are currently dominated by overcapacity — as a source explains, one of his firm's plants alone would be capable of satisfying total domestic demand. When one considers that there are six domestic producers, the extent of the overcapacity problem is apparent. Sources give capacity utilization rates for the industry of 50 percent or less for MEKP and BOP.

The situation for peroxydicarbonates is much better, producers say. In the past afflicted by overcapacity, the industry is reportedly running at 60 to 65 percent capacity. PPG Inc. dropped out of the business in January, alleviating this problem to some extent.

Oxo market sources has indicated that there may be some short-term supply problems with peroxydicarbonates due to problems with Lucidol's and US Peroxygen's plants. The source feels that an accident at Lucidol's Fort Erie, Ontario plant two weeks ago may have had some disruptive effect on production. He also cites mechanical problems at the firm's Buffalo plant, which resulted in its being shut down for one week.

This same source reported that US Peroxygen might be closing its California peroxydicarbonate plant.

Spokesmen for both Lucidol and US Peroxygen said otherwise. A Lucidol representative explained that the Canadian plant explosion, which occurred early in the morning of

PRICES TRENDLINES

WEEK ENDING AUG. 15, 1986

CHANGES/UP

None

CHANGES/DOWN

None

COATINGS INDEX

The Coatings & Plastics Index reflects the prices of 13 representative materials in this sector and the quantity of each produced in 1985.

Aug. 15, 1986	306.4
Aug. 8, 1986	306.4
Aug. 7, 1986	306.4
Aug. 14, 1986	306.4

Chemical Prices Start on Page 32

July 23, was a minor incident which had no effect on supply levels. Similarly, he stated, the shutdown of its Buffalo plant represented only a minor disruption of supply, as inventory levels were sufficient to handle demand.

Likewise, US Peroxygen officials report that they are considering consolidation of their California and Texas plants, and feel that expansion of their Marshall, Tex., plant might be more beneficial to them, given Argus Inc.'s strong Texas presence. The California plant will not be shut down, they assert. As one source describes the situation, all peroxydicarbonate producers are pushing hard to keep up production rates.

Producers report that prices for BOP continue to be deeply depressed. US Peroxygen Inc. is the only firm to have increased its prices, although all producers agree that increases are warranted. All domestic suppliers feel that a price increase will be necessary to restore health to this segment of the market.

PLASTICS MATERIALS

SAN RESINS — Sources say that demand for styrene acrylonitrile (SAN) resins is down largely as a result of imports, and substitution of cheaper plastics, such as acrylics and polystyrene, in major end-use applications.

Capacity utilization rates are said to be in the 65 to 70 percent range. Most of the SAN produced goes into PVC and ABS blends, but the merchant market for SAN is estimated

COATING & PIGMENT EXPORTS: MAY

BUREAU OF CENSUS FIGURES ON THE KEY PAINT MATERIALS.

	QUANTITY	MAY '86	APRIL '86	QUANTITY	APRIL '86
Antimony compounds	335,185	882,074	100,004	275,517	
Carbon black, including thermal	27,945,000	4,387,723	30,821,000	4,049,870	
Chromium pigments (1)	333,358	486,518	306,468	491,845	
Colors, lakes and toners (yellow)					
Concentrated dispersants					
Yellow	377,807	936,878	310,076	777,002	
Red	722,917	183,873	105,007	1,319,326	
Violet	84,535	1,490,488	105,007	1,319,326	
Blue	27,354	415,189	35,941	426,472	
NBP	285,324	953,517	374,103	1,304,576	
Prepared paint and varnish driers	605,755	3,580,777	660,111	3,444,623	
Prepared solvents & thinners	386,737	280,785	314,062	1,044,467	
Iron oxides, nat. syn.	4,925,012	2,665,913	3,147,000	1,044,467	
Lead oxides	5,440,267	2,735,907	5,054,729	2,644,346	
Phthalic anhydride					
Phthalic anhydride, disty phthalate	1,214,143	387,205	917,570	222,267	
Thiuron dioxide	4,274,037	2,433,291	10,384,222	5,044,327	
Zinc oxides	18,227,700	10,169,017	18,940,349	10,770,177	
Zinc oxides	217,589	142,381	148,597	64,280	
Zinc oxide	129,589	215,609	310,419	414,008	

(1) Includes mixtures

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An Index of weekly chemical market reports is on the back cover.

Alpic acid, 1 gram grade, bulk, hopper		
bgs, 1-l. fr. equate.	lb.	.57
Agar USP, powder, 60 to 100 mesh,		
dms.	lb.	8.50 9.85
Alcohol, 95% C-8 to C-10, tanks, f.o.b.		
Merck	lb.	.98
C-12 to C-13, tanks, divd.	lb.	.67
C-14 to C-15, tanks, divd.	lb.	.57
C-16 to C-18, tanks, divd.	lb.	.60
Aldehyde C-8, dms.	lb.	4.10
Aldehyde C-8, dms.	lb.	1.95
C-6, dms.	lb.	4.30 6.30
C-10, dms.	lb.	4.30 5.35
Algin (see Sodium alginate)		
Alkal base, dry, butyl, 110-lb. dms.,		
divd.	lb.	S.72 3.83
Alkal base prices to higher W. of		
Rockies.		
Allspice Guatemala / Honduras,		
bgs.	lb.	.90
Jamaican, bgs.	lb.	1.05
Allspice, tanks, f.o.b., Bayport,		
Tex.	lb.	.90
Allyl bromide, 100-dms. 2,200 lbs.		
or more, works.	lb.	5.50
Allyl caproate, 25-lb. cns.	lb.	3.90 4.50
Allyl chloride, tanks, f.o.b. works.	lb.	.85
Allyl isothiocyanate, bats.	lb.	5.40
Almond, art. bitter (see Almonds)		
Almond oil, nat. blitter, NF 1-l.p.d.		
bols.	lb.	S.50 3.50
sweet	lb.	1.24 1.50
Alse, Cape, cs.	lb.	2.25
Cape, cs.	lb.	2.60 2.75
Caruaco, kgs.	lb.	2.60
powd., kgs.	lb.	3.00
Atan. MF, dms.	lb.	8.00 8.70
Atom. ammonium, tech. gran., 100-lb.		
t.l. works.	lb.	35.00
FCG powder, 100-dms, works 100lbs.		
Atom. potassium, tech. gran. bgs, c.l.		
t.l. works.	lb.	35.00
FCG powder, 100-dms, works 100lbs.		

[illegible]

ATIONS

AL MARKETPLACE

E/East e.p./end point aqua./aquezized exp./expressed ext./extracted	Inc./included Indust./industrial	o./ortho ord./ordinary oz./ounce	osce./seconds sp.g./specific gravity
F./Fahrenheit	kgs./kgs	pe./phosphorus	and./and
f.a.s./free alongside ferment./fermentation	lb./pound	p.p.s./polymer	sol./solution
f.l.s./free lorry acid	l.c.s./less carload	ph./Pacific	std./standard
f.l.p.s./free from chlorine	l.f.s./less truckload	pl./proof	syn./synthetic
f.p.s./free from prus- soid acid	kg./kilogram	photo./photographic	tank./tobacco
fb./fiber	m./meter	photo./photographic	tank./technical
f.s./free on board	m.s.p./mixed aniline	plg./package	tert./tertiary
f.p./freezing point	mcg./microgram	pow./powders	LI./liquid
fr./freight	mfr./manufacturer	praco./sprayolated	oil./refers to short ton
g./gamma	min./minimum	prod./producer	of 2,000 pounds
gal./gallon	moil./mole	pvt./point	TV/hempory volume
g.p./general purpose	m.p./melting point	pvt./purified	vary allowance
gran./granular	N/hydrogen	radist./redistilled	L.w./low weight
grd./ground	n./normal	rad./refined	USP./United States
lb.s./initial boiling	n.f./natural	rad./refinery	Pharmaceutical
point	nat./neutral	resul./resublimed	
imp./imported	NP./National Formulary	re./reconstituted	via./viscosity
	No./number	se./separated	VAMP./varnish making
	Non./nominal	s.d./single distilled	& prime
		SE./Southeast	W/West
		see./secondary	white./whitening
			W.W./waterproof

NOTE: A unit-ton is 1 percent of 2,000 pounds of the basic constituent or other standard of the industry. The percentage figure of the basic constituent multiplied by the unit-ton price shown in Chemical Marketplace

[illegible]

Calcium carbonate, pulverized, 325-mesh, bags, bulk, f.o.b. works.....	34.00	-
stumps, 54% solids, same base.....	167.00	-
72% solids, same base, ton quicklime, gran., ind., bulk, works.....	57.00	-
Calcium carbonate, costed, bags, c.i., works.....	3742	1350
Calcium carbonate, precip., bag, d.i.l.....	370.00	430.00
Calcium carbonate precip. medium, bag, c.i., works.....	85.00	140.00
precip. dense, bag, c.i., surface treated, bag, c.i., works.....	195.00	-
ultrafine, USP, bags, c.i., works.....	180.00	170.00
Calcium chloride, conc. reg. grade, 77-80%, flake, bulk, c.i., ton works.....	153.00	-
100-lb. basic.....	196.00	-
anhyd., 94-97%, flake or pellet, bulk, c.i., same basis.....	217.00	-
80-lb. bag, c.i., same basis.....	276.00	-
ton brine grade, 80-lb., 200-bags.....	293.00	-
Calcium chloride, 100 percent basic, t.i., large.....	99.75	-
45% same basis.....	118.00	-
Calcium chloride, USP, gran., 226-lb. dms., i.t. in equad.....	.90	-
Calcium citrate, pure, 200-bags, 10,000 lbs. or more, f.o.b. works.....	3.82	-
Calcium cyanamide, indust., anhyd., dms. works.....	400.00	450.00
Calcium dodecylate, lump, dms., 25-1,000-lb. lots works.....	1.80	-
Calcium hypochlorite, 100-lb. dms., truckloads ship, E. of Rockies.....	92.40	-
Calcium hypochlorite, 100-lb. dms., 500 tons or more.....	13.75	14.50
Calcium iodate, FCC dms., f.o.b. works.....	5.50	-
Calcium iodide, 50-kilo dms., f.o.b. works.....	23.85	25.85
Calcium lactate, NF, powder, pentahydrate, dms., 24,000 lbs. or more f.o.b. works.....	2.00	-
HF gran., indurate, same basis, isopropyl alcohol dehydrate same basis.....	2.10	-
Calcium metaphosphate, 45% Ca, c.i., 1000 bags f.o.b. works.....	2.80	-
Calcium metaphosphate USP 100-1000 bags.....	10.50	11.50
Calcium metaphosphate, food grade, 1000 bags, 250 kilobags.....	8.00	8.50
Calcium metaphosphate, calcium chloride, conc. liquid grade, 150 grams per lb. f.o.b., i.t. ind., 500-lb. lots.....	2.75	-
Calcium phosphate, diacid, liquid grade, 10% P, bulk, c.i., f.o.b. works.....	228.00	-
Calcium phosphate, diacid, dihydrate, USP, bags, c.i., works.....	62.50	-
USP, same basis.....	71.75	-
Calcium phosphate, food grade, 50 lbs. tricalcium phosphate, food grade, bags, c.i., f.o.b. works.....	49.90	-
Calcium phosphate, monobasic, monohydrate, food grade, bags, c.i., f.o.b. works.....	50.60	-
anhyd., food grade, same basis.....	54.85	-
tribasic, prep., bag, c.i., f.o.b. works.....	54.85	-
Calcium propionate, dms., 2,000 lbs. or more f.o.b. i.t. ind.....	.60	.55
Calcium silicate, hydrated, bags, c.i., works.....	.07	-
Calcium silicate, semi grade (see Waterfloods).....	6.50	-
Calcium nitrate, mid. powder, 100-lb. dms., f.o.b. works.....	6.50	-
Camphor, monobrominated, dms., 3.03.....	3.70	-
Camphor, syn. tech., 185-lb. dms., 8,000 lbs. lot, f.o.b. works.....	1.80	-
USP, powder, 185-lb. dms., 5,000 lbs. lot or more.....	2.36	-
syn. ref., 1-oz. tablets, cns., 1,000-lb. lots or more.....	3.50	-
Camphor oil, yellow, 25-lb. dms., white dms., 250.....	2.50	2.25
spec. grav., 1.070, dms.....	2.00	-
Campania oil, Indonesian, dms., kilo.....	17.00	-
Candell wax, crude, bag, c.i., ref. pure, bag, c.i., ref.....	2.10	.65
Capric acid, tech. pure, kilo.....	.90	.65
Capric aldehyde (labeled C-10) dms., cns.....	5.60	5.35
Caproic acid, monomer, 1000 bags, 1-lb. to shipping point.....	.87	-
molten, tanks, same basis.....	.96	-
Caprylic alcohol, est., 82-99% tech., f.o.b. works.....	.35	-
Caprylic acid, ester, pure, tanks.....	73.94	-
Capric acid (see Caprylic acid).....	-	-
Caproic acid, monomer, NF, from dms., paper dms.....	11.00	-
Caproic acid, African paper, dms., 100,000 pungey.....	6.00	-
100,000 pungey.....	17.00	16.00
100,000 pungey.....	22.00	25.00
Caraway oil, Poland, dms.....	.80	.81
Caraway seed, dry, bulk, i.t. ind.....	.65	-
Carayen bags, bulk.....	-	-
Carbazole, lump, least extruding (FEP) bulk, c.i., works.....	2125	2425
bulk, c.i., works.....	2375	-
general extruding (FEP) bulk, c.i., works.....	2375	-
bulk, c.i., works.....	2375	-
high strength (HAP) high strength, bulk, c.i., works.....	2300	-
bulk, c.i., works.....	2600	-

Carbon black, low structure, bulk, c.l. works.....	lb.	240	280
Carbon black, high structure, bulk, c.l. works.....	lb.	270	290
Carbon black, thermal, medium, bgs.....	lb.	26	-
Carbon black, thermal, fine, bgs.....	lb.	28	-
Carbon black, thermal, ultrafine, bgs.....	lb.	31	-
Carbon black, thermal, ultrafine, bgs.....	lb.	4050	-
Carbon black, thermal, ultrafine, bgs.....	lb.	210	-
Carbon black, thermal, ultrafine, bgs.....	lb.	240	-
Carbon black, thermal, ultrafine, bgs.....	lb.	30	30V
Carbon black, thermal, ultrafine, bgs.....	lb.	32	34V
Carbon black, thermal, ultrafine, bgs.....	lb.	10.50	12.50
Carbon black, thermal, ultrafine, bgs.....	lb.	10.50	12.50
Carbon black, thermal, ultrafine, bgs.....	lb.	4200	-
Carbon black, thermal, ultrafine, bgs.....	lb.	36	-
Carbon black, thermal, ultrafine, bgs.....	lb.	51	-
Carbon black, thermal, ultrafine, bgs.....	lb.	24	-
Carbon black, thermal, ultrafine, bgs.....	lb.	75.00	100.00
Carbon black, thermal, ultrafine, bgs.....	lb.	3.25	-
Carbon black, thermal, ultrafine, bgs.....	lb.	8.25	9.75
Carbon black, thermal, ultrafine, bgs.....	lb.	135.00	140.00
Carbon black, thermal, ultrafine, bgs.....	lb.	1.95	2.05
Carbon black, thermal, ultrafine, bgs.....	lb.	1.75	1.90
Carbon black, thermal, ultrafine, bgs.....	lb.	1.55	1.65
Carbon black, thermal, ultrafine, bgs.....	lb.	1.10	-
Carbon black, thermal, ultrafine, bgs.....	lb.	1.30	1.40
Carbon black, thermal, ultrafine, bgs.....	lb.	20 to 100	-
Carbon black, thermal, ultrafine, bgs.....	lb.	33 to 40	-
Carbon black, thermal, ultrafine, bgs.....	lb.	500,000 A units per gram	33 to 40
Carbon black, thermal, ultrafine, bgs.....	lb.	500,000 A units per gram	33 to 40
Carbon black, thermal, ultrafine, bgs.....	lb.	167,000 A units per gram	26.85
Carbon black, thermal, ultrafine, bgs.....	lb.	48.00	-
Carbon black, thermal, ultrafine, bgs.....	lb.	7.00	-
Carbon black, thermal, ultrafine, bgs.....	lb.	1.45	-
Carbon black, thermal, ultrafine, bgs.....	lb.	1.395	-
Carbon black, thermal, ultrafine, bgs.....	lb.	5.70	-
Carbon black, thermal, ultrafine, bgs.....	lb.	.90	-
Carbon black, thermal, ultrafine, bgs.....	lb.	.72	-
Carbon black, thermal, ultrafine, bgs.....	lb.	.32V	-
Carbon black, thermal, ultrafine, bgs.....	lb.	.74	-
Carbon black, thermal, ultrafine, bgs.....	lb.	.78	-
Carbon black, thermal, ultrafine, bgs.....	lb.	.75	-
Carbon black, thermal, ultrafine, bgs.....	lb.	.74	-
Carbon black, thermal, ultrafine, bgs.....	lb.	.74	-
Carbon black, thermal, ultrafine, bgs.....	lb.	.65	-
Carbon black, thermal, ultrafine, bgs.....	lb.	1.10	-
Carbon black, thermal, ultrafine, bgs.....	lb.	.79V	-
Carbon black, thermal, ultrafine, bgs.....	lb.	164.00	-
Carbon black, thermal, ultrafine, bgs.....	lb.	18.00	35.00
Carbon black, thermal, ultrafine, bgs.....	lb.	11.00	-
Carbon black, thermal, ultrafine, bgs.....	lb.	7.93	-
Carbon black, thermal, ultrafine, bgs.....	lb.	3.71	-
Carbon black, thermal, ultrafine, bgs.....	lb.	17.50	-
Carbon black, thermal, ultrafine, bgs.....	lb.	3.50	4.00
Carbon black, thermal, ultrafine, bgs.....	lb.	3.70	4.00
Carbon black, thermal, ultrafine, bgs.....	lb.	4.25	8.00
Carbon black, thermal, ultrafine, bgs.....	lb.	.48	-
Carbon black, thermal, ultrafine, bgs.....	lb.	50.00	58.00
Carbon black, thermal, ultrafine, bgs.....	lb.	1.30	-
Carbon black, thermal, ultrafine, bgs.....	lb.	1.75	-
Carbon black, thermal, ultrafine, bgs.....	lb.	1.81	-
Carbon black, thermal, ultrafine, bgs.....	lb.	1.63	-
Carbon black, thermal, ultrafine, bgs.....	lb.	1.60	1.00
Carbon black, thermal, ultrafine, bgs.....	lb.	1.84	1.00
Carbon black, thermal, ultrafine, bgs.....	lb.	1.35	-
Carbon black, thermal, ultrafine, bgs.....	lb.	5.40	-
Carbon black, thermal, ultrafine, bgs.....	lb.	4.20	-
Carbon black, thermal, ultrafine, bgs.....	lb.	1.85	1.00
Carbon black, thermal, ultrafine, bgs.....	lb.	.86V	1.00
Carbon black, thermal, ultrafine, bgs.....	lb.	1.28	4.00
Carbon black, thermal, ultrafine, bgs.....	lb.	2.70	8.00
Carbon black, thermal, ultrafine, bgs.....	lb.	545.00	-
Carbon black, thermal, ultrafine, bgs.....	lb.	370.80	-
Carbon black, thermal, ultrafine, bgs.....	lb.	15.00	-
Carbon black, thermal, ultrafine, bgs.....	lb.	13.50	-
Carbon black, thermal, ultrafine, bgs.....	lb.	1.30	-
Carbon black, thermal, ultrafine, bgs.....	lb.	.46	-
Carbon black, thermal, ultrafine, bgs.....	lb.	.48	-
Carbon black, thermal, ultrafine, bgs.....	lb.	.46V	-
Carbon black, thermal, ultrafine, bgs.....	lb.	.89	-

WEEK ENDING AUGUST 15, 1986

Hydrochloric acid, 20% Ba. tanks, works, 30% basis.....	56.00	85.00
Midwest.....	60.00	70.00
Gulf Coast.....	57.00	-
West Coast.....	90.00	105.00
22% acid, same basis, East.....	58.00	75.00
Midwest.....	66.00	70.00
Gulf Coast.....	63.50	-
West Coast.....	100.00	115.00
NOTE: Prices vary and are after freight cost freight equalized depending on producer and location.		
Hydrochloric acid, anhyd., microfined, dms., 25 kilos or more.....	70	-
Hydrochloric acid, anhyd., microfined, dms., 25 kilos or more.....	70	-
Hydrochloric acid, anhyd., (see Hydrogen fluoride).....	43.00	-
Hydrochloric acid, anhyd., 100 lbs. tanks, 30% basis.....	161.00	-
Hydrochloric acid, anhyd., 100 lbs. tanks, 30% basis.....	100.00	140.00
Hydrogen bromide, anhyd., cysls., extra, 30,000-lb., i.o.b. works.....	7.00	-
Hydrogen chloride, anhyd., 50-lb. cysls., c.i., 1.1, dms., 70%.....	.65	-
Hydrogen chloride, anhyd., 50-lb. cysls., c.i., 1.1, dms., 70%.....	.92	-
Hydrogen chloride, anhyd., tube trailers, seller's trailer, 100,000-lb., a year.....	.37	-
Hydrogen chloride, anhyd., tube trailers, buyer's trailer.....	.27	-
Hydrogen chloride, anhyd., 100,000-lb., a year.....	270.00	-
Hydrogen cyanide, 99.5%, tanks, works.....	.88	-
Hydrogen fluoride, anhyd., tank cars, c.i., 1.1, dms., 70%.....	50.75	-
Hydrogen peroxide, 35% tech., tanks, works, 1.1, dms., 70%.....	2325	-
Hydrogen peroxide, 35% tech., tanks, works, 1.1, dms., 70%.....	3225	-
Hydrogen sulfide, 100 lbs. tanks, seller's trailer, 100,000-lb., a year.....	.12	.13
Hydroquinone, photo grade, consumer's c.i., 1.1, dms., 70%.....	2.64	-
Hydroquinone, photo grade, consumer's c.i., 1.1, dms., 70%.....	1.95	-
Hydroxyacetic acid, tech., 70% tanks, Belle, W. Va.....	.49%	-
Hydroxylammonium sulfate, dms., 1.1, 1.1, dms., 70%.....	.83	-
p-Hydroxybenzoic sulfonic acid (see p-Toluenesulfonic acid).....	-	-
Hydroxyethyl methylcellulose (visc 12,000 cps) 50 lb. bags, i.1, c.i., 30,000 lb. min., divd., zone 1.....	2.10	-
Hydroxyethyl methylcellulose (visc 12,000 cps) 50 lb. bags, i.1, c.i., 30,000 lb. min., divd., zone 1.....	18.55	-
p-Hydroxyethylamine, dms., 1.1, 1.1, dms., 70%.....	4.10	-
Hydroxylchloride, extra grade, dms., 1.1, dms., 70%.....	9.40	-
Hydroxylchloride, extra grade, dms., 1.1, dms., 70%.....	13.50	-
Hydroxylchloride, extra grade, dms., 1.1, dms., 70%.....	14.80	-
Hydroxylchloride, extra grade, dms., 1.1, dms., 70%.....	8.50	-
Hydroxylchloride, extra grade, dms., 1.1, dms., 70%.....	2.07	2.12
Hydroxylchloride, extra grade, dms., 1.1, dms., 70%.....	2.73	-
Hydroxylchloride, extra grade, dms., 1.1, dms., 70%.....	2.87	-
Hydroxylchloride, extra grade, dms., 1.1, dms., 70%.....	2.98	-
Hydroxylchloride, extra grade, dms., 1.1, dms., 70%.....	2.17	-
Hydroxylchloride, extra grade, dms., 1.1, dms., 70%.....	2.64	-
Hydroxylchloride, extra grade, dms., 1.1, dms., 70%.....	3.15	-
Ichthammol NF, 200-kilo dms., 1.1, dms., 70%.....	4.25	4.50
Ichthammol NF, 200-kilo dms., 1.1, dms., 70%.....	3.00	-
Indole, dms., 1.1, dms., 70%.....	25.50	-
Insitol, 50-kilo dms., 1000 kilos or more, i.o.b. works.....	17.50	22.00
Isoline, dms., 1.1, dms., 70%.....	13.50	18.00
Isoline USP.....	14.21	14.59
Iodochlorohydroquin, USP, XVI 60-kilo dms., 100-499 kilos, 1.1, dms., 70%.....	35.00	45.00
Iodofarm, 100-kilo dms., 1.1, dms., 70%.....	24.00	-
Iodofarm, 100-kilo dms., 1.1, dms., 70%.....	18.20	-
Iodofarm, 100-kilo dms., 1.1, dms., 70%.....	13.10	-
Iodofarm, 100-kilo dms., 1.1, dms., 70%.....	25.00	-
Iodofarm, 100-kilo dms., 1.1, dms., 70%.....	.55	.50
Iodofarm, 100-kilo dms., 1.1, dms., 70%.....	2.70	-
Iodofarm, 100-kilo dms., 1.1, dms., 70%.....	2.00	2.10

iron, purif., powd., pellets, 10-100-lb. lots, c.i. works,	1.00	-
iron oxide, black, syn., bgs., c.i., fr. equid., . . . . .	.68½	.76½
iron oxide, brown, syn., bgs., c.i., fr. equid., . . . . .	.68	.78½
iron oxide, metallic brown, c.i., bgs., fr. equid., . . . . .	.13	.16
iron oxide, nat., red, dmd., pure, bgs., c.i. works, . . . . .	.276	.40
iron oxide, yellow, . . . . .	.19	-
iron oxide, yellow, c.i., fr. equid., . . .	.83	.71
iron oxide, buff, nat., dmd., bgs., c.i., U. vases, light, . . . . .	.75	.90
dark, . . . . .	.60	-
other shades, bgs., c.i., fr. equid., . . . . .	.50	.56
isoleic anhydride, bgs., L.o.b. works	1.40	-
isomyl alcohol, 95% tanks, fr.	1.44	1.49
isobornacel, 100 lb. dms., . . . . .	.726	-
isobornyl acetate, dms., . . . . .	.80	1.15
isobutyl acetate, solvent grade, tanks, fr. skd., . . . . .	.45	.48
isobutyl acrylate, tanks, fr. skd., . . .	.71	-
isobutyl alcohol, tanks, divid., . . . .	.29	.79
isobutyrene, 90%, tanks, f.a.b. works, . . . . .	.32	-
isobutyl isobutyrate, tanks, L.o.b. works, . . . . .	.42	-
isobutyl methacrylate, tank, divid., . .	.69	-
isobutyl phenylacetate, dms.,	3.10	3.50
isobutyl salicylate, dms.,	3.45	-
isobutylvaldehyde, tech., dms., c.i., divid., . . . . .	.43	-
tanks, divid., . . . . .	.35	-
isobutyroic acid, dms., a.i., U., divid., .	No Price	-
tanks, same basis, . . . . .	.76	-
isobutyronitrile, dms., c.i., L.o.b. works fr. collect., . . . . .	.64	-
tanks, same basis, . . . . .	.76	-
isoeugenol, dms.,	6.20	5.60
isozonize, powd.,	12.00	-
isopentobarbital acid, hydrazine (see isoniazid).		
isononyl alcohol, dms., L. I., . . . . .	.48	-
iso-octyl alcohol, tanks, divid., . . . .	.44	-
isophorone, tanks divid., . . . . .	.91	-
isophthalic acid, 98%, bulk, f.o.b., Joliet, Ill., min. fr. alid.,	2.85	-
isophthalonitrile, bgs., U., works, . . .	2.65	-
isopropyl acetate, tanks, divid., . . . .	.47	-
isopropyl alcohol, anhyd., 99.9%, c.i. divid.,	1.38	-
refid., 95%, tanks, divid.,	1.31	-
refid., 91%, tanks, divid.,	1.25	-
isopropyl ether, tanks, divid., . . . . .	.44	-
ctd. tanks, divid., . . . . .	.37	-
isopropylamine, see Methylamine		
isopropyl myristate, dms., U., E., . . .	1.19	1.60
isonicotic acid, ref. bgs. U.,	1.45	1.48

J	
J acked, pasta, dms., works, 100% ba-	
Japan wax.....	kilo 4.75 -
Japan wax, ca.	lb. 5.50 5.80
J ojoba oil, 63-gal. dms., I.o.b. Arizona	
producing point	gal. 56.00 90.00
J uniper berry oil, Italian	kilo 47.00 -
K	
K acalin, water washed, fully calcined,	
bags c.i., L.e.b. Georgia ton	255.00 -
N F pwd., coffeeal, bacteria con-	
trolled, 50 lb. bags, 5,000 lb.	
lots.....	lb. .24 -
K acalin, uncalcined, No. 1 coating, bulk,	
o.j., L.o.b. Georgia.....	ton 94.00 -
No. 2 coating.....	ton 76.00 -
No. 3 coating.....	ton 73.00 -
No. 4 coating.....	ton 70.00 -
tillar, garfj purpose, same ba-	
sis.....	ton 58.00 -
demineralized water washed, uncal-	
cined paint grade 1 micron	
avg., same base.....	ton 182.00 -
dry-grd. airfloatad soft, same ba-	
sis.....	ton 80.00 -
K araya gum, No. 1, powd., bbls.....	lb. 2.25 -
No. 2, powd., bbls.....	lb. 1.85 -
K ola nuts, bbs.....	100 lbs. 5.1

Lacquer diluent petroleum, 140F-200F, br., L.p. New Jersey and New York	gal.	1.25	
Houston, Texas	gal.	1.29	
Lacquer diluent, petroleum 200F-240F, br., tankcars, New York and New Jersey	gal.	1.20	1.25
Houston, Tex.	gal.	1.12	
Lactic acid, food grade 88%, L.p. L.o.B. works	lb.		
60%, L.p. frt. equald.	lb.	.82	
tech. 88%, L.p. frt. equald.	lb.	1.03	
Lactose, edible, reg. bgs., L.o.B. works	lb.	.22	.20
Lactose, USP, reg. dms., L.p. frt. equald.	lb.	.55	.50
Lactose, USP, spray dried, bgs., L.p. L.B. works	lb.		

Laka, C, red toner, (red 53) bbls., fr. add.	5.70	-
Lenolin, anhyd., cosmetic, 400-lb. dms., works.	1.18	1.25
pharmaceutical, 400-lb. dms. works.	1.15	-
red, (under 25 l.i.a.) 400-lb. dms., works.	1.08	113
Lard (See Oils, Fats & Waxes market report.)		
Lard oil, No. 1, dms., c.i., l.o.b.	34	28
tanks, same basis.	34	28
Lard oil, extra, winter-airrained, dms., c.i.	41	-
tanks, same basis.	33	-
prime, burning, dms., c.i., same basis.	43	-
prime, burning, tanks, same basis.	35	-
NOTE: 300 Ml. red, 1 1/2 c. higher, except Texas 2c., and W.D. Coast 3c. higher.		
Laurel leaves, Turkish, dms., l.o.b.	60	90
Laurel leaves, Turkish, l.o.b.	3.95	-
Lauric acid, comf., pure bgs., c.i.	.65	71
Lauric aldehyde (aldehyde C-12) dms., works.	7.75	-
n-Lauryl methacrylate, dms., c.i., works.	1.72	-
Lavandin of, Abrialis, 30-32%, dms. lb.	4.00	-
Lavender flowers, ord.	.85	75
macadam, bbs.	.60	91
selected bbs.	1.10	1.18
Lavender flower oil, NF, French, 4-4 1/2%, ester, ome.	9.25	13.50
spike, Spanish, dms., kilo	15.00	22.00
Lead acetate, pure, l.i.e., 400-lb. dms., works.	.46	-
tech., l.i.e., 400-lb. dms., works.	.37	-
Lead blue, basic, sulfate, bbs., c.i., 400-lb. dms.	.67	-
Lead carbonate, (see Lead white basic carbonate).	3.25	-
Lead chloride, 400-lb. dms., works.	4.65	7.00
Lead dioxide, tech., powd., 200-lb. dms., l.i., works.	.86	-
Lead lucifer, 400-lb. dms., c.i., works, fr. equid.	.85	-
Lead metal, divd.	.19	1.1
Lead monosulfate, milled, bgs., c.i., 400-lb. dms.	.59 1/2	-
coarse, bgs., c.i., same basis.	.57 1/2	-
Lead naphthalene liq., 24% Pb, dms., fr. add.	.83	-
Lead nitrate tech., cryol., 400-lb. dms., works.	.32 1/2	-
Lead peroxide (see Lead dioxide).		
Lead red, 95% Pb ₂ O ₃ , or less, bgs., c.i., works.	.37	-
Lead red, 97% Pb ₂ O ₃ , bgs., c.i., works.	.37 1/2	-
Lead red, 98% Pb ₂ O ₃ , bgs., c.i., same basis.	.37 1/2	-
Lead silicate (see Lead, white, basic silicate).		
Lead stearate, tech., bgs., c.i., works.	.35	-
Lead sulfate (see Lead, blue, basic sulfate and Lead, white, basic sulfate).		
Lead, white, basic carbonate, bgs., c.i., fr. add.	.82	-
Lead, white, basic, silicate, bgs., c.i., same basis.	.87	-
Lead, white, basic sulfate, bgs., c.i., same basis.	.05	-
Leclithin, edbia, tech., bleached, non-ref. dms., l.c.i., works.	.38	-
unbleached non-ref. dms., l.c.i., same basis.	.38	-
edbia, tech., bleached, non-ref. dms., l.c.i., works.	.24	-
unbleached, non-ref. dms., l.c.i., same basis.	.28	-
Lemon oil, Argentine, 100-lb. dms.	14.00	-
Brazil	9.50	7
Ceiff., USP, dms.	9.00	9
Hellan	12.50	-
Lemonates of, Indian, dms.	11.25	-
Guatemalan, dms.	11.00	-
di-Leuene, dms., 1 kilo works.	60.00	90
Licorice root, whole, bbs.	.40	-
gran. bbs.	.70	-
edbia, tech., bleached, non-ref. dms., l.c.i., works.	.96	-
Lignosulfonate (see under Ammonium tonate).		
Lime, chemical, pebble (quicklime), buff, 50,000 lbs. works, l.o.b. plants.	38.00	45
Lime, chemical, hydrated, buff, same basis.	48.00	50
ton bgs., same basis.	64.00	67
Lime, NF, comf., 100-lb. dms.	2.25	-
Ume oil, dist., Mexican, dms.	8.00	-
Haitian, dist., dms.	0.00	-
expressed, dms.	17.50	-
Ume oil (see Castor oil).		
d-Limonene, dms.	.70	-
Unisolud acrole de rose oil, dms.	6.35	-
syn. 98-100% dms., l.o.b. works.	2.93	-
Unisolud, acrole, syn. 55-gal. dms.	7.76	-
Linsyl estolate acrole de rose oil, 92% dms.	18.00	21
syn. 98-100% dms., l.o.b. works.	9.10	-
Linsyl balsam, syn. 55-gal. dms.	3.00	-
Linsyl aluminat, syn. 5 gal. dms.	66.85	-
Linsyl formate, syn. 55-gal. dms.	7.75	8
Linsyl isobutyrate, syn. 55-gal. dms.	8.50	8
Undane, 2% formulation, dms. divd.	13.10	-
86.9% tech., dms., l.i.	8.50	-
Linalyl propionate, syn. 55-gal. dms.	7.50	-
Linden flowers, with leaves, bbs.	.78	-
without leaves, bbs.	.90	-
Linsolvent (see Oils, Fats & Waxes market report.)		
Unseed oil fatty acid, dist., dms.	.80	-
tanks.	.83	-
Utherage, comf., powd., bgs., c.i., works.	36 1/2	-
Lithium bromide, anhyd., dms., ton	.927	-
actn., same basis.	.40	-
Lithium carbonate, powd., bgs., l.i., divd.	1.60	-
Ultrium chloride, anhyd., o.i., l.i., divd.	.392	-
actn., dms.	.392	-

	Lithium hydroxide, c.i., 11, dwd.	10,000 or more	lb.	23.50
	Lithium hydroxide, monohydrate, dms, c.i., 11, dwd.		lb.	1.93
	Lithium hypochlorite, 11, workab.		lb.	1.77
	Lithium metal, 1,000-lb. lots, or more, dwd.		lb.	22.00
	Lithium nitrate, tech. dms, 100-lb. lots		lb.	3.26
	Lithium stearate, bgs, c.i., trt. dwd.		lb.	1.01
	Lithium sulfonate anhydrous, 11, dwd.		lb.	3.09
	Lithol red tinter, barium, dms, trt. acid		lb.	3.27
	chlorine, dms, same basis		lb.	3.50
	Lithol rutile layer (red 57), restated		lb.	3.50
	dms, trt. acid		lb.	5.80
	Locust bean gum, powd, bgs		lb.	6.00
	2,4 Lutidine, dms, 11, trt. equald. kds		lb.	5.75
	Lycopodium 50-lb. lots, or more		lb.	6.00
	L-Lysine mono-hydrochloride, 11, dwd.		lb.	1.35
	grain, 10,000 lbs. dwd.		lb.	1.40
	Magnesia, tech. light, neoprene grade, bgs, c.i., 11, dwd.		lb.	.75
	Magnesia, syn., chemically grade, bulk, c.i., 11, works		ton	330.00
	bags, c.i., 11, same basis		ton	365.00
	decahydrat, bulk, same basis		ton	392.00
	dms, same basis		ton	409.00
	Magnesia, nat. tech. heavy, 85% 150 mesh, bulk, c.i., 11, f.a.b.		lb.	232.00
	90%, 325 mesh, same basis		ton	286.00
	Magnesium bromide, 80-lb dms, hexahydrate		lb.	2.50
	Magnesium carbonate, light, tech. bgs, c.i., 11, works, trt. aquid		lb.	.73
	USP, lto bgs, c.i., same basis		lb.	.74
	USP, heavy, bgs, c.i., same basis		lb.	.83
	Magnesium chloride, anhyd., 92%, flake or pebble dms, c.i., works		lb.	.12%
	Magnesium chloride, hydrous, 99% flake, bgs, c.i., works		lb.	.14%
	Magnesium gluconate, 100-lb. lots, L.o.b. works, E.		lb.	4.25
	Magnesium hydroxide, NF, powd., dms, c.i., 11, works trt. aquid		lb.	.78
	Magnesium lauryl sulfate, links, L.b. works		lb.	.22
	Magnesium metal, 99.0%, ingots, 10,000-lb. lots or more f.a.b. Frearcor, Tex.		lb.	1.53
	the casting alloys		lb.	1.29
	Magnesium nitrate, tech., links, 250-lb. dms, 11, works		lb.	.32
	Magnesium oxide, USP, light, bgs, c.i., works, trt. equald. kds		lb.	1.85
	heavy, dms, c.i., ramulites		lb.	1.54
	Magnesium oxide, tech. (see Magnesia)		lb.	
	Magnesium phosphite, titanic, tech. 50-lb. bgs, 11, works		lb.	1.00
	Magnesium silicofluoride (see Tix)		lb.	
	Magnesium silicofluoride, bgs, c.i., 11, works		lb.	1.645
	Magnesium stearate, bulk, 11, works		lb.	.85
	Magnesium sulfates, 11, dms, (copper salt), tncil. figs., 11, works		lb.	.14
	bulk, same basis		lb.	.15
	USP, crystal, figs, 11, works		lb.	.13%
	USP, crystal, bulk, same basis		lb.	.14%
	Magnesium sulfite, 17% Mg. (pyr-thinitic monohydrate), tech. bgs, 11, works		lb.	.80
	CP, same basis		lb.	1.25
	Magnesium sulfite, anhyrous, CP bgs, 11, works		lb.	1.76
	Magnesium sulfite trihydrate, tech. bgs, 11, works		lb.	.45
	Magnesium sulfate, USP, powd., lb. dms, 5,000-lb. lots		lb.	.38
	USP, micronized powd., dms, 375-lb. lots		lb.	.83
	Maleic acid, tech. dms, 11, works		lb.	1.62
	Maleic acid, cryst., powd., drums, 100 kilos, f.a.b.		lb.	3.30
	drums, tons, L.o.b.		lb.	2.80
	Maleic anhydride, bgs, 11, works		lb.	.55
	acid		lb.	.61
	tank, works, trt. equald.		lb.	.81
	Maleic acid, purif. and food grades, 60-lb. bgs, 11, c.i., dms		lb.	
	Mandelic acid (see Tartaric acid, tartaric)		lb.	
	Manganese black, tech., 1,000 kilo lots		kilo	9.00
	Manganese acetate, dihydrate, dms, dwd.		lb.	.43%
	tetrahydrate, dms, 11, dwd.		lb.	.48
	Manganese borate printing ink drier, lb.		lb.	1.85
	Manganese borate, tech. dms		lb.	.80
	Manganese carbonyl, sheet, 20,000-lb. lots or more, works		lb.	1.60
	Manganese chloride, anhyd., dms, 20,000-lb. lots or more		lb.	.61
	Manganese dioxide, nat. African grad, 4-6% MnO ₂ , 100-lb. bgs, 11, works		lb.	200.00
	84% MnO ₂ , same basis		lb.	260.00
	Manganese dioxide, synth. very good, 40%-62% MnO ₂ , 100-lb. bgs, c.i., works		lb.	.70
	chemical, ferrite grade, same basis		lb.	.40
	dms, 11, works		lb.	FCC grade
	100-lb. dms, L.o.b. works		lb.	.85
	Manganese hydrate dms, dwd.		lb.	
	Manganese hypophosphite, NF, tech. bgs, 11, works		lb.	6.75
	Manganese meta electrolyte, No. 1 chip, bulk, c.i., works		lb.	.34%
	dms, c.i., works		lb.	.34%

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	Nephthalin byoxide red toner deep shades, lbs.	lb.	\$6.50
	" light shades, bbls.	lb.	7.75
-	2-Naphthol-3,8-diautonic acid, diacidum salt (see R & A)		
-	1-Naphthol-5-sulfonic acid (see L acid)		
-	1-Naphthol-6-sulfonic acid (see S acid)		
-	Naphthylamine sulfonate mixed acid (see Cleve's acid)		
-	n-Naphthylamine, tanks, l.o.b.		
-	works,	lb.	2.10
-	1-Naphthylamine-5-sulfonic acid (see Laurent's acid)		
-	2-Naphthylamine-4-diautonic acid (see Cassella salt)		
-	2-Naphthylamine-1-sulfonic acid (see Tobias's acid)		
-	Naftosol of 20% T.L., l.o.b. works		
-	tanks, l.o.b. works,	lb.	.82
-	30% T.L., l.o.b. work,	lb.	.92
-	tanks, l.o.b. works,	lb.	.44
-	40% T.L., l.o.b. works,	lb.	.48
-	tanks, l.o.b. works,	lb.	.39
-	Delivered prices apply to all mixed acid (see Tobias's acid)		
-	Philadelphia, Pa.; other areas, 1 cc. higher:		
-	higher and West Coast 3% higher:		
-	Neomycin sulfate, USP, non-sterile, dms, 50-kilo, lvs. activity base, dvt		75.00
-	Neopentyl glycol, slurry, 90%, c.i., lt.		
-	powder, lvs. bgs, lt., dvt.	lb.	.822
40%	Norcel, dms, 100 gal. dms, lt.	lb.	.560
-	port, grade dms,	lb.	.69
40	Norel oil, NF Franch Bigarade, bolts,	kilo	1580.00
-	Turan, bolt,	kilo	1150.00
-	Nordiol eny 55-gal dms, lt.		
-	Nerolin, Bromine,	kilo	7.02
-	Nickel acetate, USP, 11 dms,	kilo	9.00
-	Nicacin NF, dms, 5,000 kilos or more, dvt		7.50
-	lead-grade, 98-99.8% bgs, same basis,	kilo	6.10
1.88	Nickel acetate dms, 5,000-lbs. to lt.,	lb.	
1.79	E.	lb.	1.82
1.49	Nickel carbamate, dms, bgs, 5,000-lbs. to lt., dvt, E.	lb.	3.46
1.43	Nickel chloride, bgs, 10,000-lbs. to lt., dvt, E.	lb.	1.25
1.95	Nickel fluorate, lvs. conc. dms, lt., dvt, E.	lb.	1.18
-	Nickel mafe, electro cathodes, ca., works,	lb.	3.45
-	Nickel nitrate, dms, bgs, lt., dvt,	lb.	1.10
2.85	Nickel oxide, 75%-79% Ni, dms, 500-lb lots, l.o.b. works,	lb.	2.80
2.65	Nickel sulfate, bgs, lt., dvt, E.	lb.	.60
-	Nicotinic acid (see Nicotianic acid)		
-	Nicomamide [see Niacinamide]		
-	Nitric acid, 30° Ba, 30° Ba, 40° Ba, 42° Ba tanks, c.i., works NF, 100% basis		195.00
-	94 1/2% to 98% HNO ₃ , tanks, works, 100% basis		280.00
-	nitrocinoline, like, dms, lt.	ton	
-	works,	lb.	1.43
-	insoluble, red, tanks, works,	lb.	1.34
-	mollen, red, works,	lb.	1.41
-	o-Nitrosamine, orange toner, bgs, frt, dvt,	lb.	1.00
48	p-Nitrosamine, dms, 30,000 lb min., works,	lb.	1.68
-	o-Nitrosobenzene, 100-kilo lots,	kilo	6.73
-	Nitrosobenzene, tanks, l.o.b.	lb.	35
-	o-Nitrochlorobenzene, dms, lt., c.i., l.o.b.	lb.	.74
-	tanks, same basis,	lb.	1.71
-	2-Nitro-p-cresol, tech. dms, lt., frt,	lb.	2.50
-	Nitrophenols, tanks, dvt, E.	lb.	1.21
-	Nitrogen solutions, direct application, over 32% N, and mgf, type, works,	lb.	1.21
-	diesel,	lb.	1.21
-	Nitrogenous sewage sludge, processed, bulk, Chicago,	ton	4.10
-	NOTE: Price per unit NH ₃ plus .21, per unit O ₂ , producer's works, Chicago,	ton	7.00
80	Nitrogenous tankage, processed, bulk, Chicago,	ton	8.70
57	per unit nitrogen, lvs. l.o.b. Carrolville, Wisc.,	ton	8.37
-	L.O.B. Forbes, Me.,	ton	2.33
-	expanded, bulk, opt, per unit nitrogen, l.o.b.	lb.	2.87
-	Nitrosamine, dms, lt., dvt, E.	lb.	1.09
-	Nitrosophenol, dms, l.o.b. works,	lb.	1.16
-	works,	lb.	.85
-	2-Nitrotoluene, tanks, lt. alid, E.	lb.	.43
-	m-Nitrotoluene, tech. dms, frt, alid, l.o.b.	lb.	.83
-	o-Nitrotoluene, dms, l.o.b. works,	lb.	.83
-	Nitrobenzene, tech. dms, o.l., p-nitrochloroam, tech. dms, o.l., works,	lb.	.70
-	tanks, works,	lb.	.49
-	Nonphenol, tanks,	lb.	
-	test, me, frt, alid,	lb.	
-	Norpaprene hydrochloride (see Phenytyne dichloride)		
-	Nutmeg oil, dist. East Indian, NF,	lb.	25.00
-	Nutmegs, East Indian, whole,	lb.	2.80

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WEEK ENDING AUGUST 15, 19

	Olive (see Sulfuric acid, luming)	-	
	Oleum gum, tereb., bags.....lb.	2.10	-
	Olive oil, edible, 3 paraffin, dms.....gal.	8.70	-
	Hahn-8 type .....	.61	-
	Olive, crude, works.....ton	12.00	-
	20 mesh, work.....ton	10.00	-
	100 mesh, work.....ton	22.00	-
	Optium USP, gran. powd. 25-kilo lots.....kilo	125.00	-
	Orange oil, expressed, USP, Calif. expressed Valencia, dms.....lb.	1.20	-
	Calif., dist. cns. I.o.b. plant.....lb.	1.00	1.20
	Florida, dms.....lb.	.40	-
	Brazilian.....kilo	.80	.55
	West Ind. ....lb.	1.20	-
	dms.....lb.	6.50	-
	Orange peel, bitter, Hawaiian lb.....lb.	.38	-
	Orangeria, Greece, 30M.....lb.	1.15	-
	Turkey.....lb.	1.15	-
	Mexico.....lb.	1.05	-
	Organon oil, Spanish, cna.....kilo	35.00	-
	Orms root, Florentine, lbs.....lb.	4.00	-
	powd., bils., bas.....lb.	4.80	6.00
	Vernon ba.....lb.	3.50	-
	powd., bag, bulk, all.....lb.	4.80	6.00
	Cuticulary waf. refid., pure, bags.....lb.	3.26	-
	Oxalic acid, bags, o.l., works.....lb.	.44	-
	b-Oxyphenpholic acid dms. works, tech.....lb.	2.85	-
	Oxyquinoline base, 1,000 lbs. irt, ald.....lb.	8.00	-
	Oxyquinoline sulfate, 100 lbs. irt, ald.....lb.	4.00	-
P	Palladium metal, works.....Troy-oz	139.00	-
	Palm oil (see Oils, Fats & Waxes Market Report)	-	-
	Palm oil acid, chl-dist. dms.....lb.	3 1/4	-
	tanks.....lb.	.30	-
	s.d., dms.....lb.	.42	-
	Pain kernel oil, bulk, U.S. ports.....lb.	.71	-
	Palmkernel oil, Indian dms.....kilo	36.00	-
	Palmitic acid, 90%, tech., bags.....lb.	.53	-
	terka.....lb.	.51	-
	Paracetamol hydrochloride, NF powd., imp. bulk.....kilo	64.00	-
	Paprika, Hungarian, 100 AU bags.....lb.	.80	-
	Spanish, 110 AU bags.....lb.	.80	-
	Paraffin, fully-refd., 157-180 C BSTM, tanka, refs.....lb.	.28	-
	130-135 F., ASTM, tanks, refy.....33 1/2	-	-
	140-145 F., ASTM, tanks, refy.....35	-	-
	150-160 F., ASTM, tanks, refy.....41 1/2	-	-
	slack waf. 5% oil, tankers refy......18	-	-
	12% oil, tanker refy......21	-	-
	20% oil, tanker refy......18	-	-
	AMP temperature are as ordinary higher than ASTP	-	-
	Paraformaldehyde, 100-lb. dms.....lb.	29 1/2	-
	I.L.I. dms.....lb.	.39	-
	95% powd., bags, c.i., L.I. dms.....lb.	.70	-
	Paraffinoid, tech., 95%-56 gal. dms., L.I. dms.....lb.	.70	-
	L.I. dms.....lb.	.56	-
	Paraffin, ethyl, dms., irt, ald.....lb.	1.75	-
	Paraffin methyl (see Methyl paraffin)	-	-
	Para-toner red, balls.....lb.	3.75	-
	Chlorinated, red 4.....lb.	3.75	-
	Patichol of Indonesian, dms.....kilo	20.00	22.00
	Peach kernel oil, USP (see Apricot kernel oil)	-	-
	Peasunt meal (see Oils, Fats & Waxes market report)	-	-
	Peatin oil (see Oil, Fat & Waxes market report)	-	-
	Peckin oil, NF, citric, powd., 100- kilo lots irt, ald.....lb.	3.30	3.10
	Pelargonic acid, nat., tanks, min. irt, ald.....lb.	.70	-
	Pen, tanks, L.I. dms.....lb.	.70	-
	Penicillin G potassium, non-stable, 200- million-unit bottles.....billion units	20.00	26.00
	Penicillin procaine, stable 50 billion- unit kits, bulk.....billion units	38.00	-
	Penicillinsol, 50-bil. kit, black, bags.....lb.	5.90	-
	Penicilliocholophenol, 50-bil. bags, I.L. I.o.b. Worths, Kan.....lb.	.55	-
	Pentasterylitol, tech., bag, o.l., I.o.b. irt, ald.....lb.	.71	-
	Pentasterylitol, oil and iso-borneols (see Dipentasterylitol) Dipentasterylitol.....lb.	-	-
	Pentasterylitol triacrylate, li. dms., I.o.b. works.....lb.	1.50	-
	Pentobenzonal, dms., 100 lbs or more, irt, ald.....lb.	7.00	-
	Pentobarbitalsodium, dms., 100 lbs or more, dms.....lb.	14.00	-
	Pentothal teitrazol, No. 200 kilo lots.....kilo	32.00	-
	Pepper, black, Brazilian, bags.....lb.	1.85	1.10
	Lampong, bags.....lb.	1.50	-
	Malabar, bags.....lb.	1.50	-
	Pepper, red Chinese Pailien tea bags lb.....lb.	.85	-
	Siam, bags.....lb.	1.00	-
	Ling, bags.....lb.	.75	-
	Pinkish, white, Muntok, bags.....lb.	.68	-
	Paleikan, durinduti, bags.....lb.	.43	-
	Pepper, white, Muntok, bags.....lb.	2.40	2.10
	Peppermint leaves, imp. dms.....lb.	2.65	-
	Peppermint oil, Madras.....lb.	14.00	-
	Perment.....lb.	18.00	-
	Yaroma.....lb.	11.00	-
	gym. dms., I.o.b. works.....lb.	7.00	-

86
74
72
15
59
44
59
43
70
50
40
55
25
30
39
375
40
20
51
91
2.10
13.50
23.50
10.00
41.00
220.00
30

39

41

48

CHEMICAL PROFILE

a-Methylstyrene

AUGUST 18, 1986

SUPPLY

PRODUCER

Allied, Frenkford, Pa.	25
BTL, Blue Island, Ill.	4.5
Georgia Gulf, Bound Brook, N.J.	5
Georgie Gulf, Plaquemine, La.	10
Texaco, El Dorado, Kan.	2.5
USX, Haverhill, Ohio	32

Total.....79

CAPACITY*

"Millions of pounds annually of alpha-methylstyrene (AMS) recovered as a byproduct of phenol-acetone operations. Allied and USX can produce refined, 99 percent pure material. Georgia Gulf upgraded its facility in July and now has the option of producing fully refined material. The other producers make semi-refined, or 95 percent pure material. BTL acquired its AMS facility from Clark Chemical Corporation, in October 1985. Georgia Gulf restarted its Bound Brook phenol-acetone facility last February after a shutdown of one year. The company brought on 2 million pounds of additional capacity at Plaquemine in July 1985 in conjunction with expanded phenol-acetone output at the site. Texaco acquired Getty's El Dorado unit in a July 1984 merger. USX reduced its annual capacity by 8 million pounds when it enhanced its phenol yield at the Haverhill unit in April 1985. Amoco produces more than 34 million pounds of AMS annually as part of its continuous process for the manufacture of the company's proprietary polymer, "Resin 18." Profile last published 8/29/83; this revision 8/18/86.

DEMAND

1985: 48 million pounds; 1986: 49 million pounds; 1990: 54.5 million pounds.

GROWTH

Historical (1976-1985): 2.2 percent per year; future: 2.5 percent per year through 1990.

PRICE

Historical (1986-1986): High, 44c. per pound of refined product, tanks, works; low, 12c. per pound, same basis. Current: 28c. per pound same basis.

USES

ABS resins, 38 percent; adhesives and waxes, 13 percent; polyester resins and miscellaneous, 9 percent; exports 40 percent.

STRENGTH

ABS resins are a key growth area for AMS with growth pegged around 3 percent annually. Export values have firmed along with the strengthening dollar.

WEAKNESS

The entry of Georgie Pacific as a producer of 99-percent-purity material adds a potential of 8 million pounds of supply to the refined market. Prior to Georgie Gulf's upgrade, supply totaled 57 million pounds with a demand of approximately 45 million pounds in 1985.

OUTLOOK

ABS resins are expected to grow by 3 percent annually while all other AMS end uses are pegged for 2 percent annual growth for the next five years. While AMS is a byproduct of larger and more essential acetone-phenol operations its status may improve under the following scenario: New phenol-acetone plants produce little if any AMS and debottlenecking efforts tend to reduce AMS output. This could lead to tighter supplies worldwide, and improved returns on exports.

BOOKSHELF

Petrochemical Who's Who

The DeWitt & Co. world petrochemicals directory* is bigger and better this year. The Houston consulting and market research firm has put out the fourth edition of its directory in two volumes, one a commercial edition and the other an information services edition. Primary reason for separating the two editions is to make the directory more compact. There is no overlapping of individual listings between the two editions, DeWitt says.

The commercial edition of the directory is designed as a tool for commercial people in the petrochemical industry and puts emphasis on those who have authority to conduct business. The volume includes more than 2,000 company locations and over 4,000 names of individuals active in the international, commercial petrochemical business.

The information services edition is designed for use by people in the consulting, planning and market development end of the petrochemical business. Again, listings include over 2,000 company locations and more than 1,500 names of individuals active in the international petrochemical business.

In the back of each volume is an alphabetical listing by individual's name, plus useful data on yield factors for converting basic petrochemicals to derivatives, properties of selected chemical compounds, energy conversion factors and light hydrocarbon fuel values and useful constants and conversions.

*WHO'S WHO IN WORLD PETROCHEMICALS. Two volumes. Paper. 422 pages. 6 1/2 X 11 inches. DeWitt & Co., 16800 Greenspoint Park, North Atrium, Suite 120, Houston, Tex. 77060-2396. \$75 per volume in the US; \$80 per volume outside the US.

Chemicals Handbook

This handbook* of chemical production processes contains current information and descriptions of the various technologies involved in the production of major organic and inorganic chemicals and polymers.

Thirty-nine specialists have contributed authoritative material that provides a detailed treatment of the world's licensable chemical process production technologies. The contributors are engineers and scientists from the nineteen different firms that are the licensors of the individual processes, including companies from the US, the UK, the Federal Republic of Germany, Japan and the Netherlands.

Each process chapter examines the process chemistry and thermodynamics involved, the product and byproduct and byproduct specifications, wastes and emissions, and the locations and specifications of all plants. Both capital and operating costs are given for each process, and a general description of the process typically includes charge and product yield, purity and a simplified flow diagram.

*HANDBOOK OF CHEMICALS PRODUCTION PROCESSES. Edited by Robert A. Meyers. Cloth. 6 1/2 X 9 1/2 inches. 464 pages. McGraw-Hill Book Company, 1221 Avenue of the Americas, New York, N.Y. 10029. \$69.50.

Patent Law

This practical volume* explains current patent law without resorting to confusing legal jargon. It is written specifically for engineers and other technical people who are involved in developing and using technology commercially. However, since it is an overview of protecting intellectual property, it can be used by anyone who is not limited to any particular industry. The author explains the underlying reasons and philosophy of having a patent system. He outlines the crucial distinctions between patents, trademarks, copyrights and trade secrets.

*PATENT LAW FOR THE NON-LAWYER. By Burton A. Amernick. Cloth. 8 1/2 X 11 1/2 inches. 177 pages. Van Nostrand Reinhold, 115 Fifth Avenue, New York, N.Y. 10003. \$34.95.

JOBS & PEOPLE



John C. Jadal, who has been named vice-president for worldwide planning and development at Akzo Chemie. He has also been named senior vice-president of Akzo Chemie America.

Eastman Chemical Fills Two International Posts

Eastman Chemical Products Inc. has appointed James L. McGee and James C. Haas to new international marketing posts.

Mr. McGee has been named marketing manager for Asia and Australia. He was previous district marketing manager for Eastman Chemical International Ltd. in Hong Kong.

Mr. Haas, who succeeds Mr. McGee as Hong Kong district marketing manager, was previously an international marketing specialist.



J. McGee J. Haas

CRAIG R. KENWORTHY has been named technical representative for the Mid-Atlantic area by S.P. Morell & Co. JOHN M. BATT has been appointed marketing manager for Atchem Inc.'s "Forex" brand of halon fire extinguishants. FRANK J. WUERTZ has been appointed director of business planning for the Specialty Chemicals Division of Lonza Inc.

DAVID M. TRUAX has been named vice-president of sales for Betz PaperChem Inc. BRUCE E. STREETER has been appointed technical manager of Insulated Glass Unit in the Morton Chemical Division of Morton Thiokol Inc. THOMAS C. CERRAMI has been named branch manager in Slurveport, La., for industrial gas division sales at Air Products & Chemicals Inc.

ANDREW J. POLO has been appointed corporate traffic manager at Degussa Corporation. DAVID PASHALIDIS has been appointed manager of investor relations at Dm Chemical Company.



C. Kenworthy J. Batt B. Streeter T. Cerrami



William J. Reid, who has been named president and chief executive officer of Sungen Technologies Corporation, Palo Alto, Calif. Mr. Reid is a 30-year veteran of the chemical industry.

pointed business manager for polyethylene.

NUNZIO F. POLLIFRONE has been named monomer production supervisor in the ICI advanced materials group of ICI Americas Inc. RONALD J. MATTOZA has joined the marketing department of the ICI agricultural products group as a technical sales representative for the Pacific Southwest district. JOSEPH FIORE III has been appointed development chemist for Rubicon Chemicals Inc., an ICI unit, and LOUISE KLINCKE has been named technical service representative for Rubicon.

MICHAEL F. HOHEN has been appointed director of pension fund investment services at Union Carbide Corporation. ROBERT J. DELUCCIA has been named corporate director and division vice-president of the newly formed ethical medicines strategy group of Sterling Drug Inc. PAUL J. CLARK has been elected treasurer of Penwalt Corporation.



A. Polo D. Pashalidis

Ralston Purina Names Two in Polymers Division

Ralston Purina Company has appointed Lucy G. McDonald market research analyst in its Polymer Division and Robert F. Hurst technical Sales Representative in the division.

Miss McDonald joined the company in 1978 in the Chow Division and transferred to the Protein Division in 1980.

Mr. Hurst joined the company's Ralston Science Service Division in 1977 and transferred to the Polymer Division in 1979. He was most recently field technical service engineer.



L. McDonald R. Hurst

KENT SNYDER has been named director of licensing at Marion Laboratories. JAMES H. LAUFENBERG has been appointed director of sales for the Wood Care Division and JOSEPH T. LACZ has been named director of pharmacology for Marion Labs.



K. Robertson

KENNETH A. PREGLOW has been named director of commercialization and development at Enron Chemical Company.

K.N. ROBERTSON has been named vice-president for basic chemicals (Americas) at Exxon Chemical Company. J.H. LOWE has been named director of basic chemicals (Europe) and M.G. HANDFORD has been named worldwide vice-president of fertilizers.

MEETINGS CALENDAR

AUGUST 18, 1986

THIS MONTH

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, Summer national meeting, Sheraton Boston Hotel, Boston, Mass., August 24-27.

LATER ON

AMERICAN CHEMICAL SOCIETY, 192nd annual meeting, Anaheim Convention Center, Anaheim, Calif., September 7-12.
AMERICAN MICROCHEMICAL SOCIETY, eastern analytical symposium, jointly with American Chemical Society and Society for Applied Spectroscopy, New York Hilton Hotel, New York, October 20-24.
AMERICAN PETROLEUM INSTITUTE, annual meeting, San Francisco, Calif., November 5-11.
ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS, 100th international meeting and exhibition, The Regency Hotel, Scottsdale, Ariz., September 15-18.
ASSOCIATION OF THE NON-WOVEN FABRICS INDUSTRY, eighth international conference and exhibition, Georgia World Congress Center, Atlanta, Ga., October 21-23.

CANADIAN CHEMICAL PRODUCERS ASSOCIATION, international symposium on transportation emergency response, Vancouver, B.C., Canada, September 14-18.

CHEMICAL GROUP, NATIONAL ASSOCIATION OF PURCHASING MANAGEMENT, Fall Conference, Marriott Pavilion Hotel, St. Louis, Mo., October 21-23.

CHEMICAL MARKETING RESEARCH ASSOCIATION, world chemical congress, jointly with the chemical marketing and economics division of the American Chemical Society, "The Chemical Industry: Where in the World is it Going?", Newport Resort Hotel, Newport Beach, Calif., September 7-10.

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION, seminar on aerosol technology, Ramada Hotel O'Hara, Rosemont, Ill., October 27-28; 73rd annual meeting, Marriott's Harbor Beach Resort, Fort Lauderdale, Fla., December 7-11.

CHLORINE INSTITUTE, Fall meeting, The Homestead, Hot Springs, Va., September 21-25.

COMMERCIAL DEVELOPMENT ASSOCIATION, impact of mergers and acquisitions on the future of technology-driven corporations, Hershey Hotel, Hershey, Pa., October 28-29.

CONFERENCE BOARD, business outlook conference, Waldorf-Astoria Hotel, New York, September 24-25.

COUNCIL FOR CHEMICAL RESEARCH, annual meeting, Northwestern University, Evanston, Ill., September 28-30.

COUNCIL FOR RESPONSIBLE NUTRITION, annual meeting, "Health Messages: New Directions and New Opportunities," J.W. Marriott Hotel, Washington, D.C., September 7-10.

EUROPEAN PETROCHEMICAL ASSOCIATION, annual meeting, Monte Carlo, Monaco, September 28-October 1; distribution meeting, October 18-October 22.

FERTILIZER INSTITUTE, world fertilizer conference, "Global Trading Patterns," Hyatt Regency Hotel, San Francisco, Calif., September 14-18.

FERTILIZER ROUND TABLE, Sheraton Inner Harbor Hotel, Baltimore, Md., November 17-19.

FIRE RETARDANT CHEMICALS ASSOCIATION, Fall conference on proper processing and selection of flame retardants, Hawaii Island, S.C., October 18-22.

FRACTIONAL MATERIALS ASSOCIATION OF THE UNITED STATES, 10th international congress of essential oils, fragrances and flavors, Omni Shoreham Hotel, headquarters hotel, Washington, D.C., November 18-20.

K-88, 10th international trade fair for plastics and rubber, Ouesseldorf, West Germany, November 8-13.

LATIN AMERICAN PETROCHEMICAL ASSOCIATION, sixth annual meeting, Rio Palace Hotel, Rio de Janeiro, Brazil, November 23-26.

NATIONAL ASSOCIATION OF CHEMICAL DISTRIBUTORS, 15th annual meeting, Ritz-Carlton-Naples Hotel, Naples, Fla., December 2-5.

NATIONAL PAINT & COATINGS ASSOCIATION, 96th annual meeting, Atlanta Hilton Hotel, Atlanta, Ga., November 3-5.

PULP CHEMICALS ASSOCIATION, 13th international naval stores meeting, Waldorf-Astoria Hotel, New York, September 15-17.

SOCIETY OF CHEMICAL INDUSTRY, chemical industry medal dinner, Plaza Hotel, New York, October 15.

SOCIETY OF THE PLASTICS INDUSTRY, plastics show conference on proper processing and selection of flame retardants, Hawaii Island, S.C., October 18-22.

SYNTHETIC ORGANIC CHEMICAL MANUFACTURERS ASSOCIATION, OSHA compliance trade fair and seminar, International Hotel, New Orleans, La., September 25-26.

DAI NIPPON KAIKAKU COMPANY, Daido Manufacturing International has published a new brochure describing injection molding process for "Kydex" liquid crystal polymer resins. The eight-page brochure discusses the processability of the resins on conventional injection molding machinery, with sections on resin handling, setup/shutdown procedures and part/mold design.

EASTMAN CHEMICAL PRODUCTS Inc. says laboratory evaluations have shown that the high reactivity and solvent activity of its "Ektapro" EEP solvent make it well suited for use in electrostatic spray coatings. Contingency applicators are specially electrostatic spray to apply higher solids coatings for improved transfer efficiency. Because these coatings are more durable than conventional systems, they are ideal for industrial applications as an electrostatic spray coating.

FREEMAN CHEMICAL Corporation has reached agreement with R. H. Hall, who will represent the company in New England and McCullough & Benton Inc. will represent the company in the South.

NMS PHARMACEUTICALS Inc.'s Synorex Inc. subsidiary has filed US patents covering the use of new penetrating anabancera for pharmaceutical and veterinary applications. The subsidiary was formed this year to develop products for controlled drug-delivery systems, using new and proprietary methods for the transmission of drugs through the skin and other membranes.

PPM TECHNOLOGIES, Boston, Mass., has completed a new production facility for high-purity acids. The products will be used in the semiconductor industry. They offer the lowest level of impurities available according to PPM. The acids are available in tetra-line tanks, drums and bottles in various sizes.

PHYSCHEM TECHNOLOGIES, Austin, Tex., has introduced a new line of ion exchange resins for industrial and municipal water treatment. The products are manufactured by Phylchem by Purulite Company, a division of the Bio-Tech Corporation.

August 18, 1986

CHEMICAL MARKETING REPORTER

BUSINESS BRIEFS

CHRYSTON & KNOWLES Corporation has introduced a non-silicone antifoaming agent designed for use in jet and beam dyeing machines, scouring ranges and other applications. The agent, called "Intrafoam," is described as non-toxic and is recommended for use in most chemical systems. A technical bulletin on the product is available from the company's Dyes & Chemicals Division in California, N.C.

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